Caring for Orphaned, Abandoned and Maltreated Children
Historical Considerations

- Although foster care increased throughout the 20th century, it took another 60 years for institutions to be largely abandoned in the U.S.
- Most orphanages in U.S. and United Kingdom had closed by 1970.
- They remain the most common form of care for orphaned and abandoned children in many parts of the world.
  - There are 100 million children living without available caregivers in Asia (65 million), Africa (34 million), and Latin America/Carribean (8 million) alone (CWLA, 2003).
## Placements of under 3s in institutions

* refers to estimates, ( ) denotes parent may be with child, Browne et al. (2006)

<table>
<thead>
<tr>
<th>Country 2003</th>
<th>Proportion per 10,000</th>
<th>No u3 in institutions</th>
<th>Country 2003</th>
<th>Proportion per 10,000</th>
<th>No u3 in institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Rep.</td>
<td>60</td>
<td>1,630</td>
<td>Italy</td>
<td>14</td>
<td>(*2,269)</td>
</tr>
<tr>
<td>Belgium*</td>
<td>56</td>
<td>*2,164</td>
<td>Poland</td>
<td>9</td>
<td>*1,344</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>50</td>
<td>1,238</td>
<td>Croatia</td>
<td>8</td>
<td>144</td>
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<tr>
<td>Lithuania</td>
<td>46</td>
<td>458</td>
<td>Albania</td>
<td>8</td>
<td>*133</td>
</tr>
<tr>
<td>Latvia</td>
<td>42</td>
<td>395</td>
<td>Sweden</td>
<td>8</td>
<td>(*213)</td>
</tr>
<tr>
<td>Romania</td>
<td>33</td>
<td>2,915</td>
<td>Denmark</td>
<td>7</td>
<td>133</td>
</tr>
<tr>
<td>Slovak Rep.</td>
<td>31</td>
<td>502</td>
<td>Ireland</td>
<td>6</td>
<td>*95</td>
</tr>
<tr>
<td>Finland</td>
<td>28</td>
<td>(*)466</td>
<td>Cyprus</td>
<td>4</td>
<td>*15</td>
</tr>
<tr>
<td>France</td>
<td>27</td>
<td>*6,143</td>
<td>Austria*</td>
<td>3</td>
<td>*37</td>
</tr>
<tr>
<td>Malta</td>
<td>27</td>
<td>44</td>
<td>Greece</td>
<td>3</td>
<td>114</td>
</tr>
<tr>
<td>Estonia</td>
<td>26</td>
<td>100</td>
<td>Turkey</td>
<td>2</td>
<td>850</td>
</tr>
<tr>
<td>Hungary</td>
<td>24</td>
<td>927</td>
<td>Norway</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Spain</td>
<td>23</td>
<td>*2,471</td>
<td>UK*</td>
<td>&lt;1</td>
<td>(*65)</td>
</tr>
<tr>
<td>Portugal</td>
<td>16</td>
<td>714</td>
<td>Slovenia</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>16</td>
<td>1,284</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Placement of children under 3 taken into care, 2002-2003
Browne et al. (2006)
Institutional Care in the United States

- Institutions, which had almost disappeared as a form of care for young maltreated children, reappeared in large urban areas in late 1980’s related to cocaine epidemic and young children removed at birth.

- Numbers of infants overwhelmed foster care systems, especially in large urban areas.

- Some religious groups have never given up institutions and continue to advocate for them.
## Percentage of children in care who are in institutions in 2001 (U.S.)

<table>
<thead>
<tr>
<th></th>
<th>&lt; 1 yr</th>
<th>1-2 yrs</th>
<th>2-3 yrs</th>
<th>3-4 yrs</th>
<th>4-5 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>4.5%</td>
<td>5.4%</td>
<td>8.2%</td>
<td>11.6%</td>
<td>13.0%</td>
</tr>
<tr>
<td>Delaware</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>41.9%</td>
<td>23.1%</td>
<td>14.7%</td>
<td>16.2%</td>
<td>14.9%</td>
</tr>
<tr>
<td>Texas</td>
<td>5.3%</td>
<td>4.9%</td>
<td>5.5%</td>
<td>5.7%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Georgia</td>
<td>6.4%</td>
<td>2.9%</td>
<td>1.4%</td>
<td>0.8%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Kentucky</td>
<td>7.6%</td>
<td>5.9%</td>
<td>6.4%</td>
<td>5.9%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>1.4%</td>
<td>0.0%</td>
<td>0.8%</td>
<td>0.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>16.5%</td>
<td>12.2%</td>
<td>8.3%</td>
<td>7.5%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Total</td>
<td>2.7%</td>
<td>1.6%</td>
<td>1.4%</td>
<td>1.4%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

Child Welfare League of America, 2004
The question....

What is the evidence that foster care is better than institutional care for young children?
Evidence favoring foster care

- 50 years of studies comparing children in foster care to children in institutions, all of which finds children in foster care developing more favorably
- Children adopted out of institutions into families make dramatic developmental gains
- Problem of selection factors
- BEIP
Should institutions be abandoned as a form of care for young children?

<table>
<thead>
<tr>
<th>Pre-institutional care</th>
<th>Institutional care</th>
<th>Foster Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS/Genocide Orphans in Rwanda</td>
<td>Abandoned Romanian Children</td>
<td>Maltreated children in U.S.</td>
</tr>
<tr>
<td>Support for child headed households through mentors.</td>
<td>Reduced numbers of caregivers and/or enhanced sensitivity</td>
<td>Manualized treatments that have reduced problems are available</td>
</tr>
</tbody>
</table>

Boris et al, 2006

Smyke et al., 2002
Jones Harden, 2002

Dozier et al., xxxx
Fisher et al., 2005

In some developing countries, institutions may not yet exist and other interventions are necessary.

If institutional care must be used, small family-like group settings; short stays; more individualized care; enhance foster care alternatives.

If foster care is widely used, move towards models backed by evidence of their effectiveness compared to “business as usual”.

Jones Harden, 2002
The Bucharest Early Intervention Project
PIs and Collaborators*

- Charles Zeanah and Anna Smyke (Tulane University)
- Nathan Fox (University of Maryland)
- Sebastian Koga (University of Virginia)
- Dana Johnson (University of Minnesota)
- Peter Marshall (Temple University)
- Charles A. Nelson (Harvard Medical School)

*Subproject investigators include Megan Gunnar, Helen Link Egger, Jennifer Windsor
The Bucharest Early Intervention Project (BEIP) seeks to:

- Examine the effects of institutionalization on the brain and behavioral development of young children
- Determine if these effects can be remediated through intervention, in this case: foster care
- Improve the welfare of children in Romania by establishing foster care as an alternative to institutionalization
Project Background
The Results of Ceausescu’s 1966 Policy

- Child abandonment became a national disaster, as families could not afford to keep their children, and were encouraged to turn them over to the state.

- This destroyed the family unit and led to >100,000 children being raised in institutions.
Romania today

- At least 30,000 children remain in institutions as of 2006...although thousands of children continue to be abandoned every year.

- Moratorium on international adoption and it remains difficult to adopt domestically.
Sequelae of Institutionalization

- Children raised in institutions are at dramatically increased risk for a variety of social and behavioral abnormalities, including:
  - Disturbances and delays in social/emotional development
  - Aggressive behavior problems
  - Inattention/hyperactivity
  - Syndrome that mimics autism*

- Developmental problems believed to result from deprivation inherent in institutional care

* …which disappears once a child is adopted
The Bucharest Early Intervention Project
Sample of Institutionalized children initially selected from 187 that were screened by pediatrician; thus, no Fetal Alcohol Syndrome, frank neurological or chromosome disorders. 51 screened from study.
The BEIP is the first ever randomized trial of foster care as intervention for social deprivation associated with institutionalization.

- 136 institutionalized children between 6 and 31 months initially assessed at baseline (Mean Age=20 months)
  - 68 randomly assigned to remain in institution (IG)
  - 68 randomly assigned to foster care (FCG)
- 72 never-institutionalized children (NIG) matched on age and gender serve as controls
Foster Care Program

- Advertised for FC parents; then screened
- Identified 56 diverse foster families:
  - 63% had vocational training, specialized skills, or completed college
  - 27% Retired
  - 5% Never employed before
  - 46% Single parent families
- Based on French model—foster parents paid salaries as full-time employees rather than receiving child subsidies
- No young children attended childcare outside of the home
Support for Foster Parents and Foster Children

**Immediately after placement**
- Frequent visits and phone contact
- Specific questions regarding child behavior and development
- “Normalize” post-institutional behavior

**Longer Term**
- Foster parent support group
- Group and individualized interventions
Our foster care was unique and very high quality

**Early months of the project**
- Frequent initial visits to Romania
- Weekly videophone calls
- Building trust
- Cultural differences
  - Team vs. hierarchy
- Educational materials from US
  - Books on topics discussed in weekly phone call
    - Domestic violence
    - Child development
    - Picture books

**Longer Term Support**
- Quarterly visits
- Continued video/phone contact
- Addressing more complex issues
  - Foster parents’ early experiences and impact on relationship with child
- Introduce developmental interventions
- Process foster parent/foster child response to intervention
- “Caring for the carers” (social workers and Foster parents)
The Study

- Children assessed at:
  - Baseline (Mean age = 22 months)
  - 9 months
  - 30 months
  - 42 months
  - 54 months (limited)
  - 8 year follow up currently planned
Domains of Assessment

- Physical Development
- Language
- Social Functioning/Social-Emotional Development
- Carefully characterize caregiving Environment
- Cognition
- Temperament
- Attachment
- Brain Function
- Mental Health Problems
Ethical Considerations

- We were invited to conduct this study by Minister of Child Protection.
- Random assignment was possible because there was effectively no foster care in Bucharest when we started and we thus had to build our own.
- The foster care we created is of very high quality.
- No child placed in foster care would ever be returned to the institution.
- Any institutionalized child who had the opportunity to be placed in state-run foster care or reunited with their bio family would be.
General Hypothesis

- Deficits and developmental delays that result from institutional rearing have their origins in compromised brain development. Mechanism?
  - For the brain to wire correctly, it needs input; the lack of input leads to under-specification of circuits and miswiring of circuits
  - Children living in institutions lack input (stimulation) on a grand scale; thus, expect such children to experience a range of problems due to “errors” in brain development
- Some domains of function are more experience-dependent than others
- For those that are experience-dependent, the timing of experience will vary by domain (e.g., cognition, attachment, etc.). Thus...
- The efficacy of foster care will vary by domain and duration
Growth in the Bucharest Early Intervention Project
Growth in Institutionalized Children

- Analyzing growth in children.
- Patterns of growth failure in institutionalized (abused or neglected) children.
- What does BEIP tell us about growth and child well-being?
Analyzing Growth in Children

History: Relinquished by her mother at 17 months because of economic reasons
Why Use Z-Scores??

a.k.a. Standard Scores

- **Percentiles** are useful indicators of an individual child's status but a fixed percentile interval does not correspond to a constant change in weight or height at all points in the distribution.

<table>
<thead>
<tr>
<th>Percentile Interval</th>
<th>Height cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>10th-20th</td>
<td>2.5</td>
</tr>
<tr>
<td>40th-50th</td>
<td>1.5</td>
</tr>
<tr>
<td>70th-80th</td>
<td>1.8</td>
</tr>
</tbody>
</table>

- A **z-score** interval is a fixed difference in absolute weight or height across the entire distribution of children that are the same age. The mean and standard deviation can be computed for a group of z-scores, but not for percentiles.

<table>
<thead>
<tr>
<th>Z-Score Interval</th>
<th>Height cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>+2 to +3</td>
<td>5.7</td>
</tr>
<tr>
<td>0 to +1</td>
<td>5.7</td>
</tr>
<tr>
<td>-2 to -3</td>
<td>5.7</td>
</tr>
</tbody>
</table>

**9 Year-Old Girls**
Z-Score = Mean - Measure
S.D.
Growth Failure in Abused Children

King and Taitz
N=95, 2-144 m

Olivan
N=20, 30-42 m

Wyatt, et. al
N=45, 18-60 m

Height
Weight
Growth Failure in Institutionalized Children

-2.5
-2
-1.5
-1
-0.5
0

Rutter
Johnson
Miller
Johnson
Albers
Miller

Height
Weight

z-score
Arrival Height and Weight Z-Scores by Age Group in International Adoptees with Parent-Reported Deprivation

* p < .05
n = 520
Arrival Height and Weight Z-Scores in Deprived Children

* p < .05
n = 520

**Type 1**
Arrival Height and Weight Z-Scores in Deprived Children

-3 -2 -1 0 1

Weight

Height

* p < .05
n = 520

Type 2
Effect of Orphanage Confinement on Growth

- Institutionalized Children Fall Behind One Month of Growth for Every:
  - 2.6 Months in a Romanian Orphanage
  - 3.0 Months in a Chinese Orphanage
  - 3.4 Months in a Russian Orphanage
Relationship Between Neglect/Abuse and Stunting

Overall 28 < -2 SD on Arrival
Male 25.5%, Female 30.1%

n = 1178

*p < .001
Growth Failure in Institutionalized Children

![Bar chart showing Z-Score for Height and Weight across different groups (Rutter, Johnson, Miller, Johnson, Albers, Miller, BEIP).]
BEIP Height Z-Scores
All Subjects

* p < .001

-2 -1.5 -1 -0.5 0 0.5 1 1.5 2

Baseline 20 Mo. 31 Mo. 42 Mo.

Institutional Group
Foster Care Group

*
BEIP Weight Z-Scores
All Subjects

Baseline 31 mo. 42 mo.

Institutionalized Groups
Foster Care Group

-2 -1.5 -1 -0.5 0 0.5 1 1.5 2

20 Mo.

Baseline 31 mo. 42 mo.
Nutrient Intake within 2-4 Weeks of Arrival for Rapidly Growing International Adoptees

<table>
<thead>
<tr>
<th>Group</th>
<th>Calories (Kcal)</th>
<th>Protein (g)</th>
<th>Fat (g)</th>
<th>Carb (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Mean for 1-2 yo</td>
<td>1289</td>
<td>48</td>
<td>49</td>
<td>170</td>
</tr>
<tr>
<td>Adoptees</td>
<td>1015</td>
<td>39</td>
<td>35</td>
<td>139</td>
</tr>
<tr>
<td>DRI</td>
<td>1019</td>
<td>13</td>
<td>ND</td>
<td>130</td>
</tr>
</tbody>
</table>
Growth Failure as a Marker of Child Well-Being
BEIP Intercorrelations Between Height-for-Age and the Caregiving Environment, Cognitive Development and Behavior at Baseline

- Caregiving Environment
  - Quality of Caregiving Environment 0.17*
- Cognitive Development
  - Developmental Quotient 0.37**
  - Receptive Language 0.34**
  - Expressive Language 0.28**
- Problem/Competence Behaviors
  - Competence 0.29**
  - Depression/Withdrawal -0.17*
Growth and Child Well-Being
Conclusions

- Poor growth is a marker of deprivation.
- Simple measurement of stature can help assess:
  - Quality of Caregiving Environment
  - Cognitive Abilities
  - Some Problem/Competence Behaviors
- Shortcomings:
  - Most useful in situations that are significant departures from normal.
Findings from the Bucharest Early Intervention Study

- Domains of assessment to be discussed
  - IQ
  - Brain Development
Bayley Scales of Infant Development (MDI) (at baseline)

Mental Development Index

- Institution: 64
- Community: 103
IQ at three follow-up age points for all three groups of children
IQ Scores of Foster Care and Institutionalized Groups at Follow-up
IQ Scores of Foster Care and Institutionalized Groups at Follow-Up Broken Down by age of entry into Foster Care
Summary of IQ data

- Compared to typically developing Romanian children, children in Institutions display significant deficits in IQ.

- Children placed into foster care show marked increases in IQ compared to children remaining in institutions.

- Age of entry into foster care matters. Children entering foster care before 24 months display better improvement compared to those entering intervention later.
Brain Development: Electroencephalogram (EEG)

- The EEG reflects the electrical activity generated by the entire brain, and provides a general measure of brain development.

- The EEG is recorded by placing sensors on the head, which detect the electrical activity generated by the brain.
Institutionalized and Community Alpha Power (6-9 Hz) Across Different Brain Regions

- Frontal
- Central
- Parietal
- Occipital
- Temporal

* Significant difference
** Highly significant difference
*** Extremely significant difference
Summary of Baseline EEG Findings

Compared to community controls, institutionalized children have lower levels of brain activity...

- Across different brain regions
- Across different frequency bands*

* a frequency band refers to the type of electrical activity generated by the brain. Some types are associated with sensory processing (alpha activity), whereas others are associated with cognitive processing (beta activity).
EEG Alpha Power across sites, for both IG and FCG children, collapsed across 30 and 42 month assessments

Region × Group × Age in Institution: F(8,296) = 2.539, p = 0.011
EEG Alpha Power for Foster Care Children, collapsed across 30 and 42 month assessments, for children entering foster care before or after 24 months of age

Region × Age in Institution: $F(4,172) = 3.948, p = 0.004$
Age in Institution: $F(1,43) = 3.942, p = 0.053$
Summary of EEG Power Findings

- Alpha power increases in children placed in foster care relative to those who remain in the institution.
- These effects are more pronounced for children who were placed early in foster care (before they were 24 months of age).
- Length of intervention is correlated with increases in alpha power in the foster care group.
BEIP ERP Emotion Task

Baseline & 42-month Assessments
ERP Task: Emotion Recognition

- Angry, happy, fearful, sad female faces
- Shown with equal probability
Never Institutionalized Group
Institutionalized Group

O2: Right Occipital Electrode
*collapsed across emotion

![Graph showing P1, P400, and N170](image-url)
Summary of Baseline ERP Results

- For all occipital components (P1, N170, P400), the never-institutionalized group shows larger amplitudes and shorter latencies than the institutionalized group.

- The never-institutionalized group also shows right-hemisphere specialization for faces, whereas the institutionalized group does not.
Never Institutionalized Group
Foster Care Group
Institutionalized Group

O2: Right Occipital Electrode
*collapsed across emotion

![Graph showing P1, P400, N170 waveforms across time (milliseconds)]
Summary of 42-month ERP Results

- For the P1 and P400, the never-institutionalized group shows larger amplitudes than the institutionalized group.

- The foster care group shows amplitudes that fall in between the other two groups.
Summary Findings

- Children raised in orphanages have significantly low IQs and compromised brain development
- Taking children out of institutions and placing them in alternative family care enhances children’s IQ and brain development
- The earlier the better!
Emotional Expression and Attention
Differences between IG & NIG at Baseline

Standardized Lab-Tab Score

- Positive Affect
- Negative Affect
- Attention

**Positive Affect**

IG: -1.5
NIG: -1

**Negative Affect**

IG: 0
NIG: 0.5

**Attention**

IG: 1
NIG: 1.5

\[(F(1,181) = 13.00, p = .000)\]

\[(F(1,182) = 5.22, p < .05)\]
Effect of Foster Care on Positive Affect

$F(1, 99) = 18.55, p = .000$
Effect of Foster Care on Attention

$F(1, 102) = 9.73, p < .01$
Summary of Findings on Emotional Reactivity

- Young institutionalized children display less positive affect and attention to tasks designed to elicit these responses in typically developing children.

- Foster care appears to remediate these effects. Children placed in foster care show more positive affect and attention compared to institutionalized children.

- There were no differences in negative affect.
Attachment: Baseline Differences between Institutionalized and Community Children
Attachment to Primary Caregiver in Institutionalized and Community Children

Institutionalized: Organized (red) > Not Organized (green)
Community: Organized (red) > Not Organized (green)
## Degree to which Child Has Developed an Attachment

<table>
<thead>
<tr>
<th>Level</th>
<th>Romanian Community</th>
<th>Romanian Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1=No Attachment</td>
<td>0%</td>
<td>9.5%</td>
</tr>
<tr>
<td>2=Some Differentiation</td>
<td>0%</td>
<td>25.3%</td>
</tr>
<tr>
<td>3=Clear Preference</td>
<td>0%</td>
<td>30.5%</td>
</tr>
<tr>
<td>4=Attachment Evident</td>
<td>0%</td>
<td>31.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5=Fully Developed</td>
<td>100%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Attachment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Signs of RAD Emotionally Withdrawn/Inhibited at Baseline

- Institution
- Foster Care
- Community
RAD Indiscriminate/Disinhibited

![Graph showing the comparison of RAD Indiscriminate/Disinhibited across Institution, Foster Care, and Community settings. The y-axis represents the baseline scale, and the x-axis represents the baseline data. The graph indicates a significant difference between the settings.]
Attachment: Evaluation of the Intervention
Signs of RAD Inhibited reduced by foster placement

- Baseline
- 30 mos
- 42 mos
- 54 mos

Institution: Red
Foster Care: Yellow
Community: Green
Attachment: Behavioral Assessment of Indiscriminate Behavior
Stranger at the Door at 54 months

- Caregiver/mother and child answer door (pre-arranged)
- RA: “Come with me, I have something to show you.”
- Walk out the door and around the corner to find RA from previous home visit
Stranger at the Door at 54 months

- Institution: Did not leave 50%, Left 50%
- Foster Care: Did not leave 70%, Left 30%
- Community: Did not leave 90%, Left 10%
Impulsivity and Response Inhibition
Bear Dragon Task

Institution  Foster Care  Community

Bear  Dragon  Inh Ctrl Prob
Psychiatric Disorders
## Community Prevalence

<table>
<thead>
<tr>
<th></th>
<th>Romanian Community</th>
<th>Durham Pediatric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any disorder</td>
<td>13.6%</td>
<td>17.8%</td>
</tr>
<tr>
<td>Emotional disorder</td>
<td>8.5%</td>
<td>12.9%</td>
</tr>
<tr>
<td>Behavioral disorder</td>
<td>6.8%</td>
<td>10.7%</td>
</tr>
</tbody>
</table>
### Prevalence of disorders, overall

<table>
<thead>
<tr>
<th></th>
<th>IG</th>
<th>FCG</th>
<th>NIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any axis I disorder</td>
<td>55.9%</td>
<td>35.9%</td>
<td>13.6%</td>
</tr>
<tr>
<td></td>
<td>(N=33)</td>
<td>(N=23)</td>
<td>(N=7)</td>
</tr>
<tr>
<td>Any emotional disorder</td>
<td>49.2%</td>
<td>21.9%</td>
<td>8.5%</td>
</tr>
<tr>
<td></td>
<td>(N=29)</td>
<td>(N=14)</td>
<td>(N=5)</td>
</tr>
<tr>
<td>Any behavioral disorder</td>
<td>32.2%</td>
<td>25%</td>
<td>6.8%</td>
</tr>
<tr>
<td></td>
<td>(N=19)</td>
<td>(N=16)</td>
<td>(N=3)</td>
</tr>
</tbody>
</table>
# History of Institutionalization

<table>
<thead>
<tr>
<th></th>
<th>IG/FCG</th>
<th>NIG</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Any axis I disorder</strong></td>
<td>45.5% (N=56)</td>
<td>13.6% (N=8)</td>
<td><strong>5.3 (2.3,12)</strong> (p&lt;.0001)</td>
</tr>
<tr>
<td><strong>Any emotional disorder</strong></td>
<td>35.0% (N=43)</td>
<td>8.5% (N=5)</td>
<td><strong>5.8 (2.2,16)</strong> (p=0.0005)</td>
</tr>
<tr>
<td><strong>Any behavioral disorder</strong></td>
<td>28.5% (N=35)</td>
<td>6.8% (N=4)</td>
<td><strong>5.5 (1.8,16)</strong> (p=0.002)</td>
</tr>
</tbody>
</table>
## Prevalence of disorders, overall

<table>
<thead>
<tr>
<th>Disorder</th>
<th>IG</th>
<th>FCG</th>
<th>NIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any axis I disorder</td>
<td>55.9%</td>
<td>35.9%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Any emotional disorder</td>
<td>49.2%</td>
<td>21.9%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Any behavioral disorder</td>
<td>32.2%</td>
<td>25%</td>
<td>9.3%</td>
</tr>
</tbody>
</table>
## Comparison of Institutionalized and Foster Care Children

<table>
<thead>
<tr>
<th></th>
<th>IG</th>
<th>FCG</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Any axis I disorder</strong></td>
<td>55.9%</td>
<td>35.9%</td>
<td>2.3 (1.1, 4.7) (p=0.03)</td>
</tr>
<tr>
<td><strong>Any emotional disorder</strong></td>
<td>49.2%</td>
<td>21.9%</td>
<td>3.5 (1.6, 7.5) (p=0.002)</td>
</tr>
<tr>
<td><strong>Any behavioral disorder</strong></td>
<td>32.2%</td>
<td>25%</td>
<td>1.4 (0.6, 3.1) (p=0.4)</td>
</tr>
</tbody>
</table>
## Specific Disorders

<table>
<thead>
<tr>
<th>Disorder</th>
<th>IG</th>
<th>FCG</th>
<th>NIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD</td>
<td>25.4%</td>
<td>18.8%</td>
<td>3.4%</td>
</tr>
<tr>
<td>ODD/CD</td>
<td>15.3%</td>
<td>14.1%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Depression</td>
<td>8.5%</td>
<td>3.1%</td>
<td>0</td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>44.1%</td>
<td>20.3%</td>
<td>8.5%</td>
</tr>
</tbody>
</table>
The Institute for Child Development

Building Romania’s Child Development Infrastructure
IDC: building on BEIP’s momentum

- Non-political, science-based national resource serving the needs of Romania’s most vulnerable children
- Focused on long-term improvement and care of children
- Integration... of research, training, clinical services
- Dissemination... to create and sustain a modern and effective child health and development system in Romania
Toward building the IDC

- $900,000 grant from the John D. and Catherine T. MacArthur Foundation for research
- Secured space at St. Catherine’s Placement Center from the Romanian government
- Defined the IDC’s organizational structure
- Conducted child development seminars
- Received clinical certification from Sector 1 Department of Child Protection
- Implemented model research and case management projects
Institute Concept

**Research:** building a local knowledge base

- Pilot and translate assessment tools
- Train Romanian investigators
- Conduct comprehensive needs assessment
- Foster exchange programs between US and Romania
Institute Concept

Clinical Services

- Provide evidence-based scientifically driven care
- Generate effective interventions that can be replicated across the country
- Institute standardized diagnosis, specialized services, long-term follow-up, and family support
- Foster exchange programs between US and Romania
Institute Concept

Training and Dissemination

- Train community professionals in assessment and evidence-based treatment methods
- Educate policy makers and parents
- Create web-based tools and parent help-line
- Host bi-annual integrated conference
IDC Organizational Structure

- Executive Director
  - Director of Research
    - Research Lab
  - Director of Education and Dissemination
  - Director of Medicine
    - IDC Clinic
      - Specialty Clinic 1
      - Specialty Clinic 2
      - Specialty Clinic 3
      - Specialty Clinic 4
Impact and Challenges

- **Impact**
  - Promote healthy development of all children in Romania, not just those living in adverse circumstances
  - Train new generation of professionals to provide clinical services for and conduct research on children
  - Establish institute as a model system for other countries seeking to improve health and welfare of abandoned or disadvantaged children

- **Challenges**
  - Time and commitment of local and US-based professionals
  - Cooperation of Romanian government and EU
  - Funding
What We Need to Accomplish

- Promote and improve communication between Romanian and US-based investigators
- Seek long-term funding in order to expand scope and promise
- Develop exchange program between US and Romania
  - Professionals
  - Students
- Government “buy in” (i.e., persuade Romanian government to support IDC)