



LABOR AND POPULATION

# ***Other Standards for Benefit-Cost Analysis of Preventive Interventions***

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**November 19 2013**

**Workshop on Standards for Benefit-Cost Analysis of  
Preventive Interventions for Children, Youth, and Families**

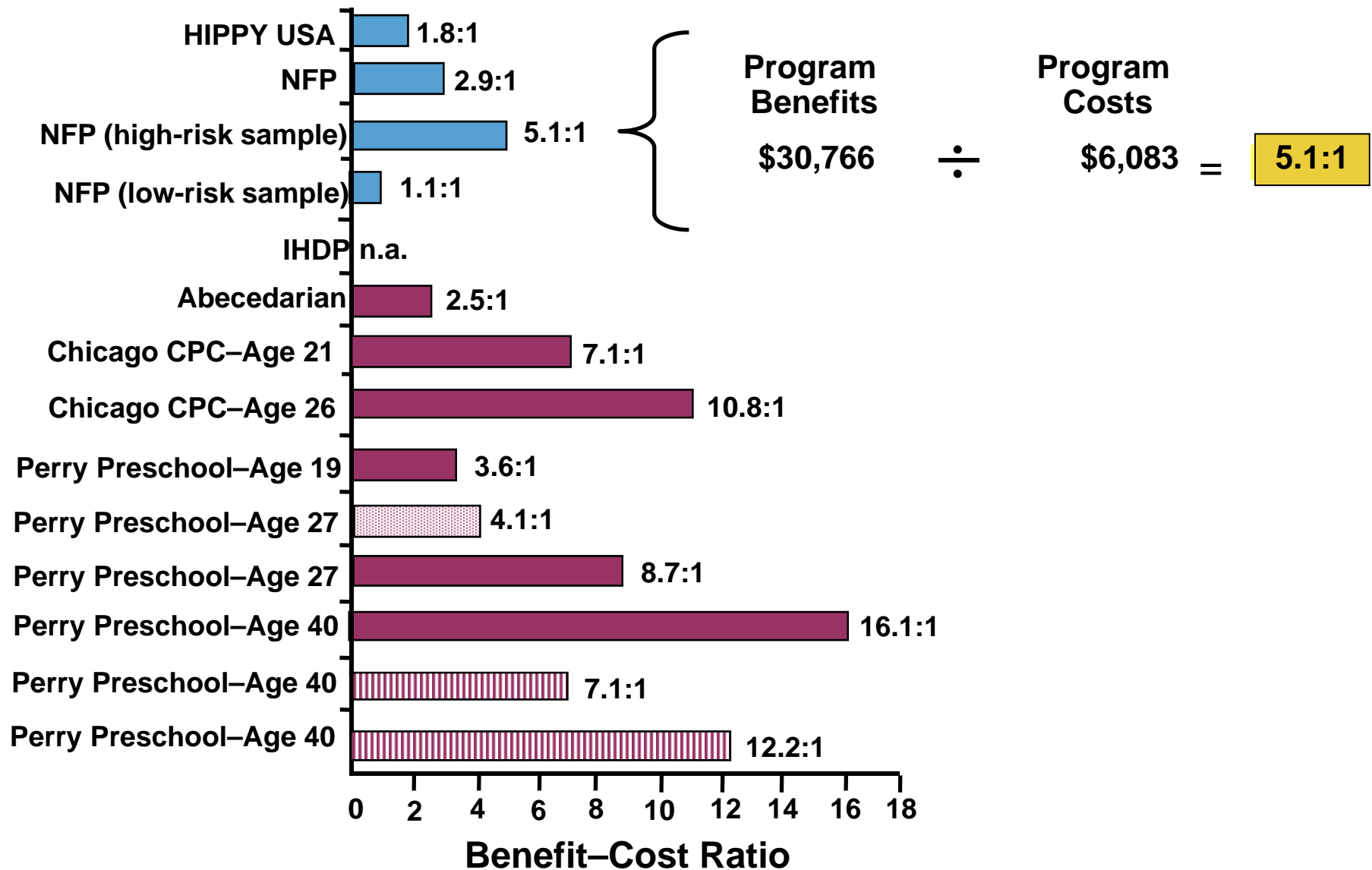
# ***Need for Standardization of BCAs of Preventive Interventions***

- **Growing demand for BCA of social programs as component of results-based accountability**
- **Variety of methods being used when BCA is applied**
- **Lack of underlying principles and standards limits comparability across BCAs for different programs**
  - **May be acceptable if interest is economic return for a specific program**
  - **But many funders in public and private sectors want to choose between interventions**

# ***Various Methods Differ in BCAs of Preventive Interventions***

- Accounting for program costs
- Whether value participant time
- Outcomes valued
- Outcomes projected
- Shadow prices
- Whether value intangible crime costs
- Whether account for dead-weight loss from taxation
- Discount rate
- Age discount to
- Accounting for uncertainty
- Sensitivity analysis
- BCA summary measures
- Accounting for scale-up effects
- Disaggregation by stakeholder
- Reporting transparency

# BCAs for 6 Early Childhood Programs Show Range of Returns



# ***Variation in Methods in Application of BCA to Early Childhood Programs***

<b>Program</b>	<b>Age at FU</b>	<b>Discount Rate(s)</b>	<b>Discount Age</b>	<b>Disaggregate by Stakeholder</b>	<b>SEs</b>	<b>Sensitivity Analysis</b>
HIPPY	6	3	3	Yes	Yes*	Some
NFP (WSIPP)	15	3	0	Yes	Yes*	Some
NFP (RAND)	15	4, 0-8	0	Yes	Yes	Some
IHDP	8	3	0	Yes	Yes*	Some
Abecedarian	21	0, 3, 5, 7, 10	0	No	No	Some
Chicago CPC	21	3, 0-7	3	Yes	No	Some
Chicago CPC	26	3, 0-7	3	Yes	Yes	Some
Perry–Age 19	19	3	3	Partial	Yes	Some
Perry–Age 27	27	3, 5, 6, 9, 10, 11	3	Partial	No	Some
Perry–Age 27 (RAND)	27	4, 0-8	3	Yes	Yes	Some
Perry–Age 40	40	0, 3, 7	3	Partial	No	Some
Perry–Age 40 (Heckman)	40	0, 3, 5, 7	3	Yes	Yes	Some

SOURCE: Karoly (2012).

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# ***Other BCA Issues and Potential Solutions***

<b>Discount rates</b>	<ul style="list-style-type: none"><li>• <b>BCA results depend on discount rate</b></li><li>• <b>No agreed upon rate</b><ul style="list-style-type: none"><li>➤ <b>2% (CBO, 1990)</b></li><li>➤ <b>3.5% (Moore et al., 2004)</b></li><li>➤ <b>7% (OMB, 1992)</b></li></ul></li></ul>	<ul style="list-style-type: none"><li>• <b>Determine base case rate</b></li><li>• <b>Report sensitivity to alternative rates</b></li></ul>
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<b>Age discount to</b>	<ul style="list-style-type: none"><li>• <b>Estimated present value costs, benefits, and net benefits will depend on the age discounted to</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Determine one or more base case ages</b></li><li>• <b>Report sensitivity to alternative ages</b></li></ul>



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Accounting for uncertainty	<ul style="list-style-type: none"> <li>• <b>BCA results are based on parameters with uncertainty (e.g., program impacts, projections)</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Report <i>Monte Carlo</i> standard errors for BCA summary measures</b></li> <li>• <b>Report percentage of simulations with positive net benefits</b></li> </ul>

# ***Other BCA Issues and Potential Solutions***

<b>Sensitivity analysis</b>	<ul style="list-style-type: none"><li>• <b>BCA results may be sensitive to assumptions (e.g., shadow prices, projections, etc.)</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Determine if standard assumptions can be set</b></li><li>• <b>Report sensitivity to alternative assumptions</b><ul style="list-style-type: none"><li>➤ <b>Discount rate</b></li><li>➤ <b>Age discount to</b></li><li>➤ <b>Shadow price methods</b></li><li>➤ <b>Projection methods</b></li><li>➤ <b>Scale-up effect</b></li><li>➤ <b>Distributional weights</b></li></ul></li></ul>
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<p><b>BCA summary measures</b></p>	<ul style="list-style-type: none"> <li>• <b>Benefit-cost ratios and IRR may not rank order programs the same as net benefits</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Report “reliable” IRR<sub>r</sub> (Zerbe, 2010) or adjust BC ratio for projects of different size</b></li> </ul>

# ***Standardization May Be Easier for Some Methods***

## **Easier Issues to Address**

- **Valuing program costs**
- **Discount rate**
- **Age discount to**
- **Accounting for uncertainty**
- **Sensitivity analysis**
- **Disaggregation by stakeholder**
- **Reporting results**

## *...Compared With Others*

### **Easier Issues to Address**

- Valuing program costs
- Discount rate
- Age discount to
- Accounting for uncertainty
- Sensitivity analysis
- Disaggregation by stakeholder
- Reporting results

### **Harder Issues to Address**

- **Baseline**
- **Length of follow-up**
- **Outcomes measured**
- **Projection of future outcomes**
  - **Participant**
  - **Parents/siblings/peers**
  - **Descendants**
- **Shadow prices for all outcomes**



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