Agenda Item #: 9:30 AM

# PALM BEACH COUNTY BOARD OF COUNTY COMMISSIONERS

## **WORKSHOP SUMMARY**

**Meeting Date:** 

November 29, 2011

Department:

Community Services/Administration

## I. EXECUTIVE BRIEF

Title: Head Start Program Overview and Governing Board Training

Summary: This workshop will be in two parts. Part 1 is in response to recent Board discussions regarding school readiness and the County-operated Head Start Program. Staff will be presenting this part jointly with the Children's Services Council of Palm Beach County. The presentation will include an introduction to early care and education at the local and national level. School readiness rating systems will be discussed and scores will be presented for Head Start and other programs participating in the Quality Improvement Rating System. There will also be a brief presentation on a local collaborative effort that is in concert with the national direction of early care and education. Part 2 is federally mandated Head Start governing board training. This is annual training on roles and responsibilities of Head Start governing boards. It will be conducted by a County consultant specializing in governing board training.

**Background:** Since 1966, PBC Head Start promotes school readiness of low-income children by enhancing their cognitive, social and emotional development in a learning environment that supports children's growth in language, literacy, mathematics, science, social and emotional functioning, creative arts, and physical skills. In 1996, Early Head Start began providing early, continuous, intensive and comprehensive child development and family support services on a year-round basis to low-income families to enhance the physical, social, emotional and intellectual development of infants and toddlers from birth to age three and pregnant women. PBC Head Start provides services to 2296 children zero to five years of age.

### Attachments:

- 1. Outline of Part 1 presentation
- 2. Quality Improvement Rating System Standards
- 3. Head Start and Children's Services Council VPK Readiness Rate Analysis
- 4. Articles (3)

Recommended by:	for Phannell	Willers
•	Department Director	Date
Approved By:	"Ofa-	11-21-11
	County Administration	Date

## II. FISCAL IMPACT ANALYSIS

A. FI	e Year Summary of I	-iscal Impa	ct:		•	
	Fiscal Years	2012	2013	2014	2015	2016
Opera Exteri Progr In-Kin NET	nditures nting Costs nal Revenues am Income (County) nd Match (County) FISCAL IMPACT	~0 ~	below			
	ADDITIONAL FTE TIONS (Cumulative)					<del></del>
Buda	n Included In Current et Account No.: F t Report	und	Departme	No ent	Unit	
В.	Recommended Sour	ces of Fun	ds/Summary	of Fiscal	Impact:	
4	There is no fiscal impa	act associat	ed with this it	tem.		
C.	Departmental Fiscal	Review:				
		III. <u>REVI</u>	EW COMME	NTS		
A.	OFMB Fiscal and/or				_	
	OFMB.	11/22/11 VA 1/22/11	Y C	) ~ 2.	Jewla Land Contro	n )))22/1/
B.	Legal Sufficiency:	<i>D</i> §				
S	Assistant County A	//∂3// ttorney	<u>//</u>			
c.	Other Department R	eview:				
			·			
	Department D	irector	<del>.</del>			

REVISED 9/03 ADM FORM 01 (THIS SUMMARY IS NOT TO BE USED AS A BASIS FOR PAYMENT.) **Board of County Commissioners** 

**Workshop Presentation** 

November 29, 2011

#### Presenters:

Jon Van Arnam, Assistant County Administrator

Tana Ebbole, Children's Services Council, Chief Executive Officer

**Channell Wilkins**, Director Department of Community Services

Karen Brandie, Children's Services Council, Program Officer

Shelley Parker, Children's Services Council, Program Officer

**Guarn Sims**, Palm Beach county School District, Village Academy, Principal

## Working Together For the Children of Palm Beach County

- I. Introduction
- II. Early Care & Education A national perspective
- III. Early Care & Education- current & future state
  - a. Quality Improvement Rating System
  - b. Head Start Status and plans
  - c. School Readiness scores, what do they mean?
  - d. A Local Demonstration Project
- IV. A Head Start student's vision
- V. The broader context of early care and education

### Summary

The workshop presentation is an introduction to early care and education at the local and national level. In the presentation there will be information shared about the school readiness scores and some of the unique factors that affect the scores. Data will be shared regarding school readiness, delineated by Head Start and participation in the Quality Rating Improvement System. There will be a brief presentation about a local collaborative effort that is in concert with the national direction of early care and education.

Document Number: 125209 11/18/2011 12:00:00 AM Attachment # \_\_\_\_/



Palm Beach County's Quality Rating Improvement System



## **Quality Standards for Child Care Centers and School Based Sites**

## Learning Environment - Environment Rating Scales-Revised (ECERS,ITERS) - 40%

- Subscales: Space-Furnishings, Personal Care Routines, Language-Reasoning, Activities, Interaction, Program Structure
- Based on average scores of sample of classrooms
- Scored on 7-point scale: 1=Inadequate, 3=Minimal, 5=Good, 7=Excellent

1	2	3	4	5
ECERS-R	ECERS-R	ECERS-R	ECERS-R	ECERS-R
3.0 – 3.49	. 3.5 – 3.99	4.0 – 4.49	4.5 – 5.49	5.5 <del>-</del> 7.0
ITERS-R	ITERS-R	ITERS-R	ITERS-R	ITERS-R
3.0 – 3.49	3.5 – 3.99	4.0 – 4.49	4.5 – 5.49	5.5 - 7.0

Assessor will randomly select 50% of a program's classrooms within each age group and will assess those classrooms with either the Infant/Toddler Environment Rating Scale (ITERS) or the Early Childhood Environment Rating Scale (ECERS). A program's average ITERS and/or ECERS classroom score becomes the Environment quality score.

If the average score is below 3.0, "0" points will be awarded for the Average Overall Score for Learning Environment Pathway.

	Staff Qualifica	ations/Professional Develo	pment – 20%	
1	2	3	4	5
Same as FL Licensing: - All staff have enrolled in the 40-hour DCF training within 90 days of hire - 40 hours certification completed within one year of hire - 5-hour Early Literacy completed - 1 staff per 20 enrolled children have DCF Staff Credential -Facility Director holds level I or If Director Credential	- Associate teachers: 25% have HS diploma/GED, 25% have DCF Staff Credential, 25% have one 3 credit ECE class or 45 hours informal ECE training annually, if higher benchmarks are not met  - Lead teachers: All have HS diploma/GED, 75% have DCF Staff Credential, and 75% have one 3 credit ECE class or 45 hours informal ECE training annually, if higher benchmarks are not met  - Facility Director has HS diploma/GED, DCF Staff Credential, and one 3 credit ECE class or 45 hours informal ECE training annually, if higher benchmarks are not met	- Associate teachers: 50% have HS diploma/GED, 50% have DCF Staff Credential, 50% have one 3 credit ECE class or 45 hours informal ECE training annually, if higher benchmarks are not met  Lead teachers: All have HS diploma/GED, 90% have DCF Staff Credential, and 90% have one 3 credit ECE class or 45 hours informal ECE training annually, if higher benchmarks are not met  - Facility Director has HS diploma/GED, DCF Staff Credential, and one 3 credit ECE class or 45 hours informal ECE training annually, if higher benchmarks are not met	- Associate teachers: 75% have HS diploma/GED, 75% have DCF Staff Credential, 75% have one 3 credit ECE class or 45 hours informal ECE training annually, if higher benchmarks are not met  Lead teachers: All have HS diploma/GED, DCF Staff Credential, 90% have one 3 credit ECE class or 45 hours informal ECE training annually, if higher benchmarks are not met 25% have completed 12 ECE credit hours  25% will hold an Associate degree or higher with 12 ECE credits or 60 credits with 12 ECE credits (effective 10/1/2012)  - Facility Director has HS diploma/GED, DCF Staff Credential, completed 12 ECE credit hours, and holds FL Advanced level credential  Associate degree or higher with 12 ECE credits or 60 credits with 12 ECE credits (effective 10/1/2012)	- Associate teachers: All have HS diploma/GED, DCF Staff Credential, 75% have one 3 credit ECE class or 45 hours informal ECE training annually, if higher benchmarks are not met, and 25% have completed 12 ECE credit hours  Lead teachers: All have; HS diploma/GED, DCF Staff Credential, and completed 12 ECE credit hours, if higher benchmarks are not met  50% will hold an Associate degree or higher with 12 ECE credits or 60 credits with 12 ECE credits (effective 10/1/2012)  - Facility Director has HS diploma/GED, DCF Staff Credential, completed 12 ECE credit hours, and holds FL Advanced level credential  Associate degree or higher with 12 ECE credits or 60 credits with 12 ECE credits (effective 10/1/2012)

10 hr State In-service	25% Professional Staff	50% Professional Staff	75% Professional Staff	100% Professional Staff
Requirement	completed annual 50 points			

- 100% of professional staff at the 2, 3, 4, and 5-star level meet the 40-Hour Certification + 5-Hour Literacy requirement.
- DCF Staff Credential requirement includes the Birth-Five Florida Child Care Professional Credential (FCCPC) formerly the FL CDA-Equivalent, the DOE Early
  Childhood Professional Certificate (ECPC), national CDA or equivalent national early childhood credential, Associate degree or higher in ECE or related field,
  Associate degree or higher out of field with 6 credits in ECE plus 480 hours experience. See the website of the Department of Children and Families-DCF child care
  training: www.myflorida.com/childcare/training. For a detailed description of requirements please refer to the Quality Counts Professional Development Form.
- At the 2 and 3-star level, associate teachers without staff qualifications, hired six months prior to assessment may or may not be counted in Professional Development assessment, to be assessed to the advantage of the PD star rating.
- Professional Staff: includes facility Director and Assistant Director; lead teachers; associate teachers; and curriculum/education specialists, "floater", permanent substitute
- Facility Director: the full-time administrative person at a single site
- Lead Teacher: (a minimum of one per classroom) person responsible for a group of children for the majority of the day, duties may vary by site. Lead teacher category requirements apply to certain other professional staff assistant Director and curriculum/educational specialists.
- Associate Teacher: teaching personnel other than the lead teacher needed to meet the minimum ratio requirements; does not require an associate's degree.
- In-service Education and Training: includes GED, ESOL, preparatory courses, credit and non-credit college classes, and approved related workshops and conferences successfully completed with an "S", "P", or "C" and better. First aid and CPR are not counted as in-service hours.
- Education and Training Hours: 3 credit hours = 45 clock hours; 1 CEU = 10 clock hours; and each clock hour = 1 hour

	Ratios – Group Sizes – 10%												
	1		2			3		4		5			
Age	Ratio	Group	Ratio	Group	Ratio	Group	Ratio	Group	Ratio	Group			
Infant	1:4	n/a	1:4	12	1:4	8	1:4	8	1:4	8			
One	1:6	n/a	1:6	12	1:6	12	1:5	10	1:5	10			
Two	1:11	n/a	1:9	18	1:8	16	1:7	14	1:6	12			
3	1:15	n/a	1:13	26	1:12	24	1:10	20	1:9	18			
4-5	1:20	n/a	1:16	32	1:13	26	1:10	20	1:10	20			

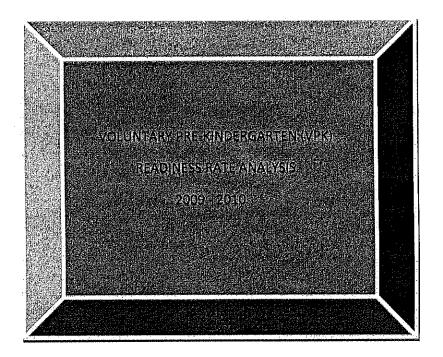
	- University - Uni	Program – 15%		
	Family Engag	gement (All of the previous le	evels required)	
1	2	3	4	5
- Family Handbook is written and includes parental rights and responsibilities - Signed acknowledgement of receipt of handbook by parent	Minimum of 3 modes of communication are used to share child and program information with families	At least 2 family activities per year provided	- Families are invited to scheduled family-teacher conferences to review child's progress and needs and to set goals, x2/year - Activities provided for children and families to assist with transition to new settings within the child care program and/or to kindergarten	- Families have opportunity to evaluate the provider in writing at least annually  - Resources are available to communicate with families in the family's primary language  - Developmental screening and referral process is in place for 90% of all children, and results are shared with staff and families  - Activity suggestions are developed with staff and families for children identified with delays
	Program Admii	nistration (All of the previou	s levels required)	
1	2	3	4	5
Risk management plan is in place (written action plan for emergencies such as hurricanes, fire, flood, etc. including evacuation routes identified and practice drills)	Personnel policy manual includes written staff orientation procedures and job descriptions      Staff Turnover Reports submitted to Registry monthly	- Staff meetings are held at least quarterly  - Written performance evaluations are completed annually	- Written operating policies & procedures include standard business and fiscal management practices  - Marketing plan is in place to maximize full enrollment - Performance evaluations	- Salary scale is in place and is differentiated by education, experience - Financial recordkeeping system provides quarterly reports and analysis and 1-year projected budget - Performance evaluations
			include classroom observation	include professional development plans

	Curriculu	ım (All previous levels	required) – 15%	
1	2	3	4	5
Compliance with the Early Learning Coalition of Palm Beach County's rate agreement process for curriculum implementation.  Copy of curriculum  Curriculum is on Coalition's list OR program has successfully completed Coalition review process.  On the applicable Environment Rating Scales, the program has achieved average scores of 3.0 – 3.49 (Level 1) on the following subscales.  Activities  Language-Reasoning — ECERS, Listening and Talking — ITERS  Program Structure	- On the applicable Environment Rating Scales, the program has achieved average scores of 3.5 – 3.99 (Level 2) on the following subscales. • Activities • Language-Reasoning – ECERS, Listening and Talking – ITERS • Program Structure	- On the applicable Environment Rating Scales, the program has achieved average scores of 4.0 – 4.49 (Level 3) on the following subscales. • Activities • Language-Reasoning – ECERS, Listening and Talking – ITERS • Program Structure	- On the applicable Environment Rating Scales, the program has achieved average scores of 4.5 – 4.99 (Level 4) on the following subscales. • Activities • Language-Reasoning – ECERS, Listening and Talking – ITERS • Program Structure  - Written lesson plans that reflect goals and objectives set by the approved developmentally appropriate curriculum for (see 6 weeks of past lesson plans) that highlight curriculum area for ages birth to five.  - An approved developmentally appropriate curriculum is fully implemented (effective 10/1/2011)	On the applicable Environment Rating Scales, the program has achieved average scores of 5+ (Level 5) on the following subscales.  Activities  Language-Reasoning – ECERS, Listening and Talking – ITERS  Program Structure  - A system is in place for ongoing child observations, individualized program planning and family communication.  Process of completing ongoing child observations at least three times per year is described in writing (may be in the personnel policies and/or the family handbook).  Samples of child observation form, anecdotal notes, and/or child portfolios that reflect goals and progress for each individual child observed for at least 30% of children enrolled (names deleted) Evidence that progress is shared with families.  - Child assessment guides individualized program planning and communicating with families.  Lesson planning forms in use include a section for activities targeted towards meeting identified needs of individual children.

Florida Early Learning Coalitions are directed by the state Office of Early Learning to establish lists of appropriate curricula and to establish a procedure for reviewing-approving other curricula.

If the average score is below 3.0, "0" points will be awarded for the Average Overall Score for the Curriculum Pathway.

## PALM BEACH COUNTY HEAD START & CHILDREN'S SERVICES



Revised 10/6/11

Attachment #

## Overview

VPK was voted into legislation in 2004 to provide a free program to prepare Florida's children for kindergarten. All children who turn 4 years old on or before September 1st and are also Florida residents are eligible to participate.

VPK and Head Start began a partnership during school term 2007-2008 to ensure that the same level of high quality pre-kindergarten learning opportunities could be maintained for children receiving services through Head Start despite budgetary constraints. As such, 3 to 4 hours of a student's Head Start day is funded by VPK. The VPK program mandates that 540 instructional hours be provided during the year before the child is admitted to kindergarten, and the Florida Department of Education is required by VPK law to calculate a Kindergarten Readiness Rate each year, for each participating provider.

Palm Beach County Head Start is currently under a service agreement with the Early Learning Coalition of Palm Beach County, through Family Central Inc., the managing agent, to provide school year VPK services for all enrolled four year old children, at the exception of those who are dually enrolled and receive specialized services off sites during the VPK instructional hours. This agreement covers 10 of the Head Start centers directly managed by Palm Beach County Head Start.

The contracted and delegate agencies affiliated with Palm Beach County Head Start that participate in the VPK Program are under independent service agreements with the Early Learning Coalition of Palm Beach County, and thus are not included in this analysis.

The table below presents the VPK Readiness Rates for the Head Start VPK sites since the inception of the VPK/PBC-Head Start collaboration.

Table I.-

## HEAD START/VPK INITIATIVE

### **VOLUNTARY PREKINDERGARTEN READINESS RATE**

PROGRAM YEAR	2007-2008	2008-2009	2009-2010
MINIMUM READINESS RATE	214	/38	140
SCREENING INSTRUMENTS:	ECHOS/DIBELS/IDELS	ECHOS/FAIR	ECHOS/FAIR
Boynton Beach Head Start		156	162
Delray Beach Head Start		183	157
Jupiter Head Start	205	141	144
Lake Worth Head Start		154	145
Pahokee Head Start		140	173
Palm Glades Head Start	120	123	135
Riviera Beach Head Start	198	166	173
South Bay Head Start		144	155
Westgate Head Start	206	83	186
West Palm Beach Head Start	226	162	166

## VPK Provider Kindergarten Readiness Rate - Program Year 2009 – 2010

The VPK Provider Kindergarten Readiness Rate measures how well a VPK Provider prepares four-year-olds to be **Ready for Kindergarten** based on the Florida Kindergarten Readiness Screeners (FLKRS). The maximum rate for program year 2009-2010 is **200**, and the minimum rate is **140** as adopted by the School Board of Education.

The VPK Provider Kindergarten Readiness Rate is in fact the sum of the Percent of Children Ready for Kindergarten.

## Head Start Children Included in the VPK Provider Readiness Rate Calculation:

Nine of the 10 VPK participating Palm Beach County Head Start Centers met the minimum VPK Readiness Rate requirements for program year 2009- 2010. Preliminary results were published early February 2010 and were based on the following calculations:

**Children Served** - The number of Head Start children who participated in the VPK Program for the 2009-2010 program year which was 496.

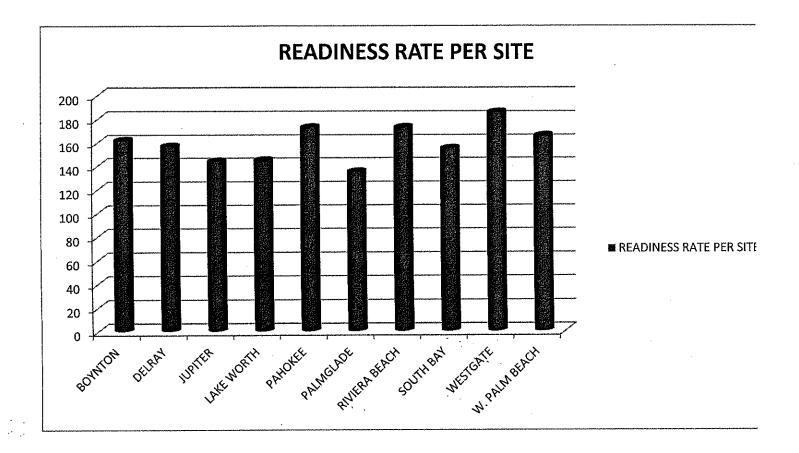
**Children Meeting Substantial Completion** — 367 Head Start children who attended at least 70% of the school-year and were eligible to be included in the readiness rate calculation.

Children In Readiness Rate Calculations – 350 children who were screened with any or all of the Florida Kindergarten Readiness Screener (FLKRS) measures. FLKRS is administered in the first 30 days of kindergarten and includes a subset of the Early Childhood Observation System™ (ECHOS™) and the Florida Assessments for Instruction in Reading (FAIR).

Table II below presents a broad view of the general data collected for analysis. The data contained herein is generated from the VPK Readiness Rate Report published by the Department of Education (<a href="https://vpk.fldoe.org/">https://vpk.fldoe.org/</a>), Palm Beach County Head Start internal tracking system (CHILDPLUS), Enrollment & Attendance Verification Reports from the VPK/ Head Start sites.

PBC HEAD START/VPK - School Term 2009-2010	BOYNTON	DELRAY	JUPITER	LAKE	PAHOKE	PALM	RIVIERA	SOUTH	WEST	W. PALM	HEAD
				WORTH		GLADE	BEACH	BAY	GATE	BEACH	START
CHILDREN SERVED	75	34	37	59	. 56	31	72	44	18	70	49
CHILDREN MEETING SUBSTANTIAL COMPLETION	59	28	32	53	28	17	55	42	15	38	36
% CHILDREN MEETING SUBSTANTIAL COMPLETION	79%	82%	86%	90%	50%	55%	76%	95%	83%	54%	749
CHILDREN NOT INCLUDED IN CALCULATIONS	3	4	4	1	2	C	5	C	1	1	2:
CHILDREN SCREENED (ECHOS)	56	24	28	48	26	1.6	50	42	14	37	34:
CHILDREN SCREENED (FAIR)	49	28	22	52	26	1.7	47	42	14	35	33:
CHILDREN IN READINESS RATE CALCULATION	56	28	28	52	26	17	50	42	14	37	350
READINESS FOR KINDEGARTEN (ECHOS)	53	24	25	41	26	15	48	39	14	34	31
READINESS FOR KINDERGARTEN (FAIR)	33	16	12	31	19	7	36	26	12	26	21:
% CHILDREN READY FOR KINDERGARTEN (ECHOS)	95%	100%	89%	85%	100%	94%	96%	93%	100%	92%	949
% CHILDREN READY FOR KINDERGARTEN (FAIR)	67%	57%	55%	60%	73%	41%	77%	62%	86%	74%	669
READINESS RATE - 2009/2010	162	157	144	145	173	135	173	155	186	166	

The following chart offers a comparative view of the VPK Readiness Rate for the 10 participating Head Start centers:



## Readiness Categories:

**ECHOS** - results for the ECHOS were calculated by using the ratings teachers assigned to 19 activities as a result of on-going classroom observations during the first 30 days of school for children entering kindergarten for the first time in 2009-2010. Scores are recorded for ECHOS in the following readiness categories (what the child should know or be able to do upon entering kindergarten:

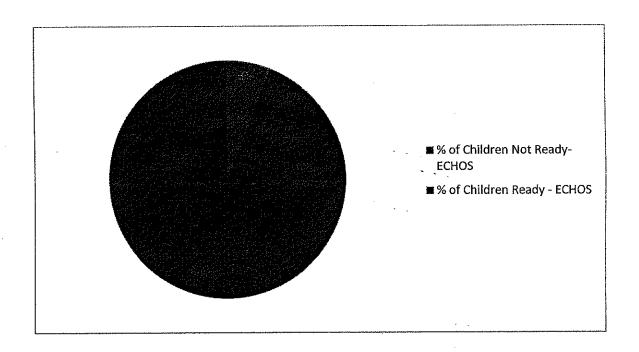
- Demonstrating
- Emerging/Progressing
- Not yet demonstrating

To be considered "Ready for Kindergarten" a child should score at "Demonstrating" or "Emerging/Progressing" levels.

Table III. - Readiness Rate: ECHOS

2009 -2010 READINESS FOR KINDEGARTEN (ECHOS)	BOYNTON	DELRAY	JUPITER	LAKE	PAHOKEE	PALM	RIVIERA	SOUTH	WEST	W. PALM	HEAD
				WORTH		GLADES	BEACH	BAY	GATE	BEACH	START
CHILDREN SCREENED (ECHOS)	56	24	28	48	26	16	50	42	14	37	341
Children Ready	53	24	25	41	26	15	48	39	14	34	319
Children Not Ready	3	0	3	7	0	1	2	3	0	3	22
% of Children Not Ready	5%	0%	11%	15%	0%	6%	4%	7%	0%	8%	6%
% of Children Ready	95%	100%	89%	85%	100%	94%	96%	93%	100%	92%	94%

94% of the 341 children who were screened were found to be "Ready for Kindergarten" as demonstrated by the ECHOS readiness results, a 4% improvement over the ECHOS readiness rate for 2008-2009, with three of the Head Start/VPK sites achieving perfect scores of 100% in that category.

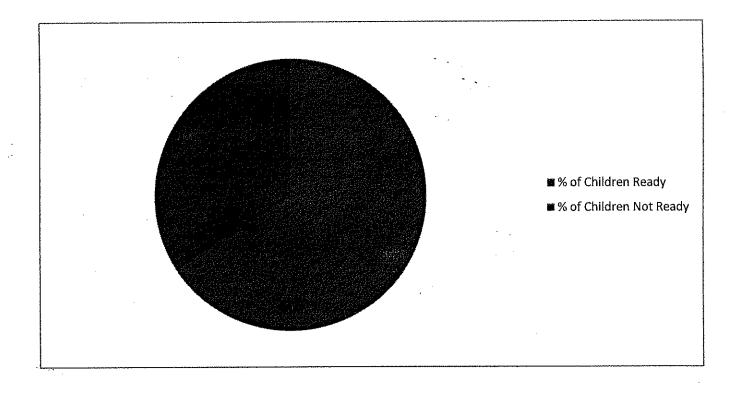


**FAIR** — uses two measures, the Broad Screen/Progress Monitoring Tool (letter naming, phonemic awareness) and the Broad Diagnostic inventory (listening comprehension, vocabulary to assess specific skills aligned with the VPK Education Standards in the area of Emergent Literacy. A Probability of Reading Success score of 67% or higher is considered ready for kindergarten.

## Readiness Rate: FAIR

READINESS FOR KINDEGARTEN	BOYNTON	DELRAY	JUPITER	L. WORTH	RIVIERA	PAHOKEE	PALMGLADE	SOUTH BAY	WESTGATE	WPB	HEADSTART
CHILDREN SCREENED (FAIR)	49	28	22	52	47	26	17	42	14	35	332
Children Ready	33	16	12	31	36	19	7	26	12	26	218
Children Not Ready	16	12	10	21	11	7	10	16	2	9	114
% of Children Not Ready	33%	43%	45%	40%	23%	27%	59%	38%	14%	26%	34%
% of Children Ready	67%	57%	55%	60%	77%	73%	41%	62%	86%	74%	66%

Five of the 10 centers met the FAIR readiness rate at 67% or above the recommended probability of reading success for kindergarten readiness, as measured by FAIR. The overall FAIR readiness rate of 66% is evidence of a 5% readiness rate improvement from the previous year which was rated at 61%.



Low performing providers are required to submit and implement an improvement plan. They are also responsible to submit quarterly progress reports indicating progress plan

Providers failing to meet the minimum rate for three consecutive years will be placed on probation and corrective action will be taken, including the mandatory use of a DOE approved curriculum.

For program year 2009- 2010, only 1 of the 10 sites that participated in the Head Start/VPK Initiative was listed as a Low Performing Provider (LPP). This center being a 3<sup>rd</sup> time LPP is under a mandatory improvement plan.

The White House

Office of the Press Secretary

For Immediate Release November 08, 2011

# We Can't Wait: President Obama Takes Action to Improve Quality and Promote Accountability in Head Start Programs

WASHINGTON, DC – Today, the President will announce important steps to improve the quality of services and accountability at Head Start centers across the country. The Department of Health and Human Services will implement new rules that will – for the first time – require all low-performing Head Start grantees that fail to meet a new set of rigorous benchmarks to recompete for continued federal funding.

This reform will help direct taxpayer dollars to programs that provide high-quality Head Start services and ensure Head Start programs provide the best available early education services to children in every community. Today's announcement is part of a series of actions President Obama has taken because America's children only get one chance and can't wait for help getting a world-class education.

"We can't wait to give more of our youngest children the same basic opportunities we all want for our kids. That's why today, I'm announcing a new rule that will increase the quality of Head Start programs around the country," President Obama said. "After trying for months to work with Congress on education, we've decided to take matters into our own hands. Our future is at stake. Our children deserve action. And we can't wait for Congress any longer."

"With this new rule we are introducing unprecedented accountability in the Head Start program," said U.S. Secretary of Health and Human Services Kathleen Sebelius. "Head Start has a critical mission – to help children from low-income families achieve their full potential and, in turn, help our country build tomorrow's workforce. It is a top priority for the Obama Administration to ensure that the program fulfills that mission by holding programs to high standards for classroom quality and program integrity. We owe Head Start children the highest quality services available to prepare them for school and for life."

Head Start provides grants to local organizations to provide comprehensive child development services to low-income children and families. Today, there are nearly1,600 Head Start and Early Head Start grantees across the country providing early learning services to nearly one million of our nation's most vulnerable infants, toddlers and preschoolers.

Attachment # \_\_\_\_\_\_A

This reform in Head Start builds on bipartisan policies enacted in the most recent revision of the Head Start legislation in 2007. The rules were crafted by the Obama Administration with extensive input from a national advisory committee, parents, educators, child development experts and the public. The new quality benchmarks are transparent, research-based, and include standards for health and safety, and fiscal integrity. They will measure Head Start classroom quality based on a rigorous, validated evaluation tool to determine which programs are – and are not – providing high-quality services.

Over the next three years, the Department of Health and Human Services will review the performance and program quality of all Head Start grantees. Those that don't meet the quality benchmarks will be required to compete for continued funding.

The new benchmarks mandate that any low-performing Head Start grantee will have to compete for funding if they have deficiencies discovered in their onsite review, fail to establish and use school-readiness goals for children, or demonstrate low performance in the classroom quality evaluation. In addition, grantees will also be required to compete for federal funding if their state and local licensing has been revoked, a Head Start grant has been suspended or if fiscal or management issues prevent them from properly manage federal funds.

Based on analysis of current program performance data, it is estimated that one-third of all grantees will be required to re-compete for continued funding under this new rule. HHS will notify the first group of Head Start grantees that will be required to compete for continued funding in December 2011.

Going forward, all Head Start grants will be converted to five-year grants and each program's performance and quality will be evaluated every five years to determine whether the grantee meets the benchmarks or must compete to receive another grant.

Head Start is administered by the Office of Head Start in the Administration for Children and Families, a division of the U.S. Department of Health and Human Services.

### **Strengthening Head Start**

Through the American Recovery and Reinvestment Act, President Obama invested \$2.1 billion in Head Start and Early Head Start, expanding these programs to reach an additional 61,000 children and families. The President has also made reform of the Head Start program a high priority, and has committed to ensuring that every Head Start center provides a high-quality environment. While the majority of Head Start programs provide quality services to children and families, we need to ensure that children receive the full support needed to begin school ready for success.

Head Start is widely recognized for its comprehensive approach – programs promote early literacy and numeracy, while supporting good nutrition habits, physical activity, and positive social and emotional development. The rule announced today is an essential part of the Obama Administration's strategy to strengthen Head Start and to raise the bar on quality, particularly for lower performing programs.

The Obama Administration has taken additional steps to improve quality in Head Start programs, including:

- Evaluating Teacher-Child Interactions in Head Start Classrooms. Head Start program serving preschoolers have been evaluated using the CLASS: Pre-K tool since 2009. This assessment is not only important for identifying programs for competition; it is designed to be used by programs to identify areas in need of improvement so they can target their efforts where they are most needed. Rigorous research has shown that the CLASS: Pre-K is linked to important child outcomes, such as academic achievement and behavior.
- Improved Training and Assistance in Head Start Programs. The Obama Administration's new network of evidence-based training will prepare Head Start classrooms around the country to undertake continuous improvements in their program. Those who participate in these services can improve their programs so they are less likely to meet the criteria for competition.
- **Head Start Centers of Excellence.** Twenty centers have been selected by the Obama Administration for distinction as a Head Start Center of Excellence, based on the quality of their program. These Head Start Centers are producing positive, measurable outcomes related to school readiness for children; supporting families; and increasing staff competence. Information about their approaches and models of service will be disseminated to other Head Start and early childhood programs across the country to guide other grantees on a path to excellence.
- Mentorship Across Head Start Programs. More than 125 grantees were selected for a 17 month pilot that pairs Head Start programs with mentors who have the expertise to help them improve the quality of their programs. Selected grantees have proposed a variety of models that include on-site mentoring and distance mentoring through the use of technology.

## Promoting School Readiness for America's Children

The years prior to kindergarten are among the most significant in shaping a child's foundation for learning and school success. Today's announcement builds on a comprehensive early learning agenda to help provide the support needed for children to succeed in school and in life:

- President Obama's Race to the Top: Early Learning Challenge is a first-of-its-kind competition that will provide \$500 million to winning states to bring innovation and quality improvement to all early learning programs, including Head Start, public pre-K, child care, and private preschools to close the achievement gap between low-income children and their peers. The Race to the Top-Early Learning Challenge focuses on outcomes and results in early learning, challenging governors to develop new approaches to raising the bar across state early learning settings to adopt rigorous standards across programs; undertake efforts to improve the early education workforce; and ensure that more children enter kindergarten ready for success.
- President Obama's call to strengthen our nation's child care providers was presented in the FY 2012 budget, including principles for reauthorization of the child care subsidy system which serves 1.6 million low-income children and families each month. The

American Recovery and Reinvestment Act invested \$2 billion in the Child Care and Development Fund, to support child care assistance and quality improvements. The Administration is working with State partners to raise the level of quality in child care programs by developing systems that set standards for quality, provide parents with information about the quality of child care programs, and provide pathways for providers to meet higher standards.

• The Affordable Care Act provided \$1.5 billion over 5 years in funding for the Maternal, Infant, and Early Childhood Home Visiting Program, which relies on evidence-based home visiting strategies that help families create a nurturing environment for young children. President Obama recognizes the importance of promoting healthy development and improving maternal and child health outcomes in the early years. This program connects families to a range of services — including health, early education, early intervention and more — in order to better ensure that children are healthy and prepared for school and life. Effective home visiting programs can have powerful positive impacts on maternal and child health, child maltreatment, parenting skills, children's cognitive, language, and social-emotional development, and school readiness.

Occupy Wall Street is shining a useful spotlight on one of America's central challenges, the inequality that leaves the richest 1 percent of Americans with a greater net worth than the entire bottom 90 percent.



Damon Winter/The New York Times

Nicholas D. Kristof

### On the Ground

Nicholas Kristof addresses reader feedback and posts short takes from his travels. Go to  $\mathsf{Blog}\ \mathsf{n}$ 

## Go to Columnist Page »

Most of the proposed remedies involve changes in taxes and regulations, and they would help. But the single step that would do the most to reduce inequality has nothing to do with finance at all. It's an expansion of early childhood education.

Huh? That will seem naïve and bizarre to many who chafe at inequities and who think the first step is to throw a few bankers into prison. But although part of the problem is billionaires being taxed at lower rates than those with more modest incomes, a bigger source of structural inequity is that many young people never get the skills to compete. They're just left behind.

"This is where inequality starts," said Kathleen McCartney, the dean of the Harvard Graduate School of Education, as she showed me a chart demonstrating that even before kindergarten there are significant performance gaps between rich and poor students. Those gaps then widen further in school.

Attachment # \_

"The reason early education is important is that you build a foundation for school success," she added. "And success breeds success."

One common thread, whether I'm reporting on poverty in New York City or in Sierra Leone, is that a good education tends to be the most reliable escalator out of poverty. Another common thread: whether in America or Africa, disadvantaged kids often don't get a chance to board that escalator.

Maybe it seems absurd to propose expansion of early childhood education at a time when budgets are being slashed. Yet James Heckman, a Nobel Prize-winning economist at the University of Chicago, has shown that investments in early childhood education pay for themselves. Indeed, he argues that they pay a return of 7 percent or more — better than many investments on Wall Street.

"Schooling after the second grade plays only a minor role in creating or reducing gaps," Heckman argues in an important article this year in American Educator. "It is imperative to change the way we look at education. We should invest in the foundation of school readiness from birth to age 5."

One of the most studied initiatives in this area was <u>the Perry Preschool</u> program, which worked with disadvantaged black children in Michigan in the 1960s. Compared with a control group, children who went through the Perry program were 22 percent more likely to finish high school and were arrested less than half as often for felonies. They were half as likely to receive public assistance and three times as likely to <u>own their own homes</u>.

We don't want to get too excited with these statistics, or those of the equally studied <u>Abecedarian Project</u> in North Carolina. The program was tiny, and many antipoverty initiatives work wonderfully when they're experiments but founder when scaled up. Still, new research suggests that early childhood education can work even in the real world at scale.

Take <u>Head Start</u>, which serves more than 900,000 low-income children a year. There are flaws in Head Start, and researchers have found that while it improved test results, those gains were fleeting. As a result, Head Start seemed to confer no lasting benefits, and it has been widely criticized as a failure.

Not so fast.

One of the Harvard scholars I interviewed, David Deming, <u>compared the outcomes</u> of children who were in Head Start with their siblings who did not participate. Professor Deming found that critics were right that the Head Start advantage in test scores faded quickly. But, in other areas, perhaps more important ones, he found that Head Start had a significant long-term impact: the former Head Start participants are significantly less likely than siblings to repeat grades, to be diagnosed with a learning disability, or to suffer the kind of poor health associated with poverty. Head Start alumni were more likely than their siblings to graduate from high school and attend college.

Professor Deming found that in these life outcomes, Head Start had about 80 percent of the impact of the Perry program — a stunning achievement.

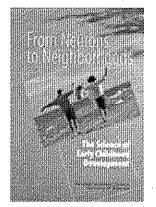
Something similar seems to be true of the large-scale prekindergarten program in Boston. Hirokazu Yoshikawa and Christina Weiland, both of Harvard, found that it erased the Latino-white testing gap in kindergarten and sharply reduced the black-white gap.

President Obama often talked in his campaign about early childhood education, and he probably agrees with everything I've said. But the issue has slipped away and off the agenda.

That's sad because the question isn't whether we can afford early childhood education, but whether we can afford not to provide it. We can pay for prisons or we can pay, less, for early childhood education to help build a fairer and more equitable nation.

From Neurons to Neighborhoods: The Science of Early Childhood Development (Free Executive Summary) http://www.nap.edu/catalog/9824.html

## Free Executive Summary



# From Neurons to Neighborhoods: The Science of Early Childhood Development

Jack P. Shonkoff and Deborah A. Phillips, Editors; Committee on Integrating the Science of Early Childhood Development, Board on Children, Youth, and Families

ISBN: 978-0-309-06988-5, 612 pages, 6 x 9, hardback (2000)

This free executive summary is provided by the National Academies as part of our mission to educate the world on issues of science, engineering, and health. If you are interested in reading the full book, please visit us online at http://www.nap.edu/catalog/9824.html . You may browse and search the full, authoritative version for free; you may also purchase a print or electronic version of the book. If you have questions or just want more information about the books published by the National Academies Press, please contact our customer service department toll-free at 888-624-8373.

How we raise young children is one of today's most highly personalized and sharply politicized issues, in part because each of us can claim some level of "expertise." The debate has intensified as discoveries about our development-in the womb and in the first months and years-have reached the popular media. How can we use our burgeoning knowledge to assure the well-being of all young children, for their own sake as well as for the sake of our nation? Drawing from new findings, this book presents important conclusions about nature-versus-nurture, the impact of being born into a working family, the effect of politics on programs for children, the costs and benefits of intervention, and other issues. The committee issues a series of challenges to decision makers regarding the quality of child care, issues of racial and ethnic diversity, the integration of children's cognitive and emotional development, and more. Authoritative yet accessible, From Neurons to Neighborhoods presents the evidence about "brain wiring" and how kids learn to speak, think, and regulate their behavior. It examines the effect of the climate-family, child care, community-within which the child grows.

## This executive summary plus thousands more available at www.nap.edu.

Copyright © National Academy of Sciences. All rights reserved. Unless otherwise indicated, all materials in this PDF file are copyrighted by the National Academy of Sciences. Distribution or copying is strictly prohibited without permission of the National Academies Press http://www.nap.edu/permissions/ Permission is granted for this material to be posted on a secure password-protected Web site. The content may not be posted on a public Web site.

Attachment # 4c

## **Executive Summary**

cientists have had a long-standing fascination with the complexities of the process of human development. Parents have always been captivated by the rapid growth and development that characterize the earliest years of their children's lives. Professional service providers continue to search for new knowledge to inform their work. Consequently, one of the distinctive features of the science of early childhood development is the extent to which it evolves under the anxious and eager eyes of millions of families, policy makers, and service providers who seek authoritative guidance as they address the challenges of promoting the health and well-being of young children.

## PUTTING THE STUDY IN CONTEXT

Two profound changes over the past several decades have coincided to produce a dramatically altered landscape for early childhood policy, service delivery, and childrearing in the United States. First, an explosion of research in the neurobiological, behavioral, and social sciences has led to major advances in understanding the conditions that influence whether children get off to a promising or a worrisome start in life. These scientific gains have generated a much deeper appreciation of: (1) the importance of early life experiences, as well as the inseparable and highly interactive influences of genetics and environment, on the development of the brain and the unfolding of human behavior; (2) the central role of early relationships

as a source of either support and adaptation or risk and dysfunction; (3) the powerful capabilities, complex emotions, and essential social skills that develop during the earliest years of life, and (4) the capacity to increase the odds of favorable developmental outcomes through planned interventions.

Second, the capacity to use this knowledge constructively has been constrained by a number of dramatic transformations in the social and economic circumstances under which families with young children are living in the United States: (1) marked changes in the nature, schedule, and amount of work engaged in by parents of young children and greater difficulty balancing workplace and family responsibilities for parents at all income levels; (2) continuing high levels of economic hardship among families, despite overall increases in maternal education, increased rates of parent employment, and a strong economy; (3) increasing cultural diversity and the persistence of significant racial and ethnic disparities in health and developmental outcomes; 4) growing numbers of young children spending considerable time in child care settings of highly variable quality, starting in infancy; and (5) greater awareness of the negative effects of stress on young children, particularly as a result of serious family problems and adverse community conditions that are detrimental to child well-being. While any given child may be affected by only one or two of these changes, their cumulative effects on the 24 million infants, toddlers, and preschoolers who are now growing up in the United States warrant dedicated attention and thoughtful response.

This convergence of advancing knowledge and changing circumstances calls for a fundamental reexamination of the nation's responses to the needs of young children and their families, many of which were formulated several decades ago and revised only incrementally since then. It demands that scientists, policy makers, business and community leaders, practitioners, and parents work together to identify and sustain policies and practices that are effective, generate new strategies to replace those that are not achieving their objectives, and consider new approaches to address new goals as needed. It is the strong conviction of this committee that the nation has not capitalized sufficiently on the knowledge that has been gained from nearly half a century of considerable public investment in research on children from birth to age 5. In many respects, we have barely begun to use our growing research capabilities to help children and families negotiate the changing demands and possibilities of life in the 21st century.

### THE COMMITTEE'S CHARGE

The Committee on Integrating the Science of Early Childhood Development was established by the Board on Children, Youth, and Families of the National Research Council and the Institute of Medicine to update scien-

tific knowledge about the nature of early development and the role of early experiences, to disentangle such knowledge from erroneous popular beliefs or misunderstandings, and to discuss the implications of this knowledge base for early childhood policy, practice, professional development, and research.

The body of research that the committee reviewed is extensive, multidisciplinary, and more complex than current discourse would lead one to believe. It covers the period from before birth until the first day of kindergarten. It includes efforts to understand how early experience affects all aspects of development—from the neural circuitry of the maturing brain, to the expanding network of a child's social relationships, to both the enduring and the changing cultural values of the society in which parents raise children. It includes efforts to understand the typical trajectories of early childhood, as well as the atypical developmental pathways that characterize the adaptations of children with disabilities.

The committee's review of this evidence addresses two complementary agendas. The first is focused on the future and asks: How can society use knowledge about early childhood development to maximize the nation's human capital and ensure the ongoing vitality of its democratic institutions? The second is focused on the present and asks: How can the nation use knowledge to nurture, protect, and ensure the health and well-being of all young children as an important objective in its own right, regardless of whether measurable returns can be documented in the future? The first agenda speaks to society's economic, political, and social interests. The second speaks to its ethical and moral values. The committee is clear in our responsibility to speak to both.

## CORE CONCEPTS OF DEVELOPMENT

As the knowledge generated by interdisciplinary developmental science has evolved and been integrated with lessons from program evaluation and professional experience, a number of core concepts, which are elaborated in the report, have come to frame understanding of the nature of early human development.

- 1. Human development is shaped by a dynamic and continuous interaction between biology and experience.
- 2. Culture influences every aspect of human development and is reflected in childrearing beliefs and practices designed to promote healthy adaptation.
- 3. The growth of self-regulation is a cornerstone of early childhood development that cuts across all domains of behavior.

### FROM NEURONS TO NEIGHBORHOODS

- 4. Children are active participants in their own development, reflecting the intrinsic human drive to explore and master one's environment.
- 5. Human relationships, and the effects of relationships on relationships, are the building blocks of healthy development.
- 6. The broad range of individual differences among young children often makes it difficult to distinguish normal variations and maturational delays from transient disorders and persistent impairments.
- 7. The development of children unfolds along individual pathways whose trajectories are characterized by continuities and discontinuities, as well as by a series of significant transitions.
- 8. Human development is shaped by the ongoing interplay among sources of vulnerability and sources of resilience.
- 9. The timing of early experiences can matter, but, more often than not, the developing child remains vulnerable to risks and open to protective influences throughout the early years of life and into adulthood.
- 10. The course of development can be altered in early childhood by effective interventions that change the balance between risk and protection, thereby shifting the odds in favor of more adaptive outcomes.

### POLICY AND PRACTICE

The committee's conclusions and recommendations are derived from a rich and extensive knowledge base and are firmly grounded in the following four overarching themes:

- All children are born wired for feelings and ready to learn.
- Early environments matter and nurturing relationships are essential.
- Society is changing and the needs of young children are not being addressed.
- Interactions among early childhood science, policy, and practice are problematic and demand dramatic rethinking.

### All Children Are Born Wired for Feelings and Ready to Learn

From the time of conception to the first day of kindergarten, development proceeds at a pace exceeding that of any subsequent stage of life. Efforts to understand this process have revealed the myriad and remarkable accomplishments of the early childhood period, as well as the serious problems that confront some young children and their families long before school entry. A fundamental paradox exists and is unavoidable: development in the early years is both highly robust and highly vulnerable. Although there have been long-standing debates about how much the early years really matter in the larger scheme of lifelong development, our con-

Copyright © National Academy of Sciences. All rights reserved. This executive summary plus thousands more available at http://www.nap.edu

EXECUTIVE SUMMARY

5

clusion is unequivocal: What happens during the first months and years of life matters a lot, not because this period of development provides an indelible blueprint for adult well-being, but because it sets either a sturdy or fragile stage for what follows.

### Conclusions

- From birth to age 5, children rapidly develop foundational capabilities on which subsequent development builds. In addition to their remarkable linguistic and cognitive gains, they exhibit dramatic progress in their emotional, social, regulatory, and moral capacities. All of these critical dimensions of early development are intertwined, and each requires focused attention.
- Striking disparities in what children know and can do are evident well before they enter kindergarten. These differences are strongly associated with social and economic circumstances, and they are predictive of subsequent academic performance. Redressing these disparities is critical, both for the children whose life opportunities are at stake and for a society whose goals demand that children be prepared to begin school, achieve academic success, and ultimately sustain economic independence and engage constructively with others as adult citizens.
- Early child development can be seriously compromised by social, regulatory, and emotional impairments. Indeed, young children are capable of deep and lasting sadness, grief, and disorganization in response to trauma, loss, and early personal rejection. Given the substantial short- and long-term risks that accompany early mental health impairments, the incapacity of many early childhood programs to address these concerns and the severe shortage of early childhood professionals with mental health expertise are urgent problems.

### Recommendations

• Recommendation 1 — Resources on a par with those focused on literacy and numerical skills should be devoted to translating the knowledge base on young children's emotional, regulatory, and social development into effective strategies for fostering: (1) the development of curiosity, self-direction, and persistence in learning situations; (2) the ability to cooperate, demonstrate caring, and resolve conflict with peers; and (3) the capacity to experience the enhanced motivation associated with feeling competent and loved. Such strategies and their widespread diffusion into the early childhood field must encompass young children both with and with-

out special needs. Successful action on this recommendation will require the long-term, collaborative investment of government, professional organizations, private philanthropy, and voluntary associations.

- Recommendation 2 School readiness initiatives should be judged not only on the basis of their effectiveness in improving the performance of the children they reach, but also on the extent to which they make progress in reducing the significant disparities that are observed at school entry in the skills of young children with differing backgrounds.
- Recommendation 3 Substantial new investments should be made to address the nation's seriously inadequate capacity for addressing young children's mental health needs. Expanded opportunities for professional training, as recently called for by the Surgeon General, and incentives for individuals with pertinent expertise to work in settings with young children are essential first steps toward more effective screening, early detection, treatment, and ultimate prevention of serious childhood mental health problems.

### Early Environments Matter and Nurturing Relationships Are Essential

The scientific evidence on the significant developmental impacts of early experiences, caregiving relationships, and environmental threats is incontrovertible. Virtually every aspect of early human development, from the brain's evolving circuitry to the child's capacity for empathy, is affected by the environments and experiences that are encountered in a cumulative fashion, beginning early in the prenatal period and extending throughout the early childhood years. The science of early development is also clear about the specific importance of parenting and of regular caregiving relationships more generally. The question today is not whether early experience matters, but rather how early experiences shape individual development and contribute to children's continued movement along positive pathways.

## Conclusions

• The long-standing debate about the importance of nature *versus* nurture, considered as independent influences, is overly simplistic and scientifically obsolete. Scientists have shifted their focus to take account of the fact that genetic and environmental influences work together in dynamic ways over the course of development. At any time, both are sources of human potential and growth as well as risk and dysfunction. Both genetically determined characteristics and those that are highly affected by experience are open to intervention. The most important questions now concern how environments influence the expression of genes and how genetic

makeup, combined with children's previous experiences, affects their ongoing interactions with their environments during the early years and beyond.

- Parents and other regular caregivers in children's lives are "active ingredients" of environmental influence during the early childhood period. Children grow and thrive in the context of close and dependable relationships that provide love and nurturance, security, responsive interaction, and encouragement for exploration. Without at least one such relationship, development is disrupted and the consequences can be severe and long-lasting. If provided or restored, however, a sensitive caregiving relationship can foster remarkable recovery.
- Children's early development depends on the health and well-being of their parents. Yet the daily experiences of a significant number of young children are burdened by untreated mental health problems in their families, recurrent exposure to family violence, and the psychological fallout from living in a demoralized and violent neighborhood. Circumstances characterized by multiple, interrelated, and cumulative risk factors impose particularly heavy developmental burdens during early childhood and are the most likely to incur substantial costs to both the individual and society in the future.
- The time is long overdue for society to recognize the significance of out-of-home relationships for young children, to esteem those who care for them when their parents are not available, and to compensate them adequately as a means of supporting stability and quality in these relationships for all children, regardless of their family's income and irrespective of their developmental needs.
- Early experiences clearly affect the development of the brain. Yet the recent focus on "zero to three" as a critical or particularly sensitive period is highly problematic, not because this isn't an important period for the developing brain, but simply because the disproportionate attention to the period from birth to 3 years begins too late and ends too soon.
- Abundant evidence from the behavioral and the neurobiological sciences has documented a wide range of environmental threats to the developing central nervous system. These include poor nutrition, specific infections, environmental toxins, and drug exposures, beginning early in the prenatal period, as well as chronic stress stemming from abuse or neglect throughout the early childhood years and beyond.

#### Q

### Recommendations

- Recommendation 4 Decision makers at all levels of government, as well as leaders from the business community, should ensure that better public and private policies provide parents with viable choices about how to allocate responsibility for child care during the early years of their children's lives. During infancy, there is a pressing need to strike a better balance between options that support parents to care for their infants at home and those that provide affordable, quality child care that enables them to work or go to school. This calls for expanding coverage of the Family and Medical Leave Act to all working parents, pursuing the complex issue of income protection, lengthening the exemption period before states require parents of infants to work as part of welfare reform, and enhancing parents' opportunities to choose from among a range of child care settings that offer the stable, sensitive, and linguistically rich caregiving that fosters positive early childhood development.
- Recommendation 5 Environmental protection, reproductive health services, and early intervention efforts should be substantially expanded to reduce documented risks that arise from harmful prenatal and early postnatal neurotoxic exposures, as well as from seriously disrupted early relationships due to chronic mental health problems, substance abuse, and violence in families. The magnitude of these initiatives should be comparable to the attention and resources that have been dedicated to crime prevention, smoking cessation, and the reduction of teen pregnancy. They will require the participation of multiple societal sectors (e.g., private, public, and philanthropic) and the development of multiple strategies.
- Recommendation 6 The major funding sources for child care and early childhood education should set aside a dedicated portion of funds to support initiatives that jointly improve the qualifications and increase the compensation and benefits routinely provided to children's nonparental caregivers. These initiatives can be built on the successful experience of the U.S. Department of Defense.

## Society Is Changing and the Needs of Young Children Are Not Being Addressed

Profound social and economic transformations are posing serious challenges to the efforts of parents and others to strike a healthy balance between spending time with their children, securing their economic needs, and protecting them from the many risks beyond the home that may have an adverse impact on their health and development.

### Conclusions

- Changing parental work patterns are transforming family life. Growing numbers of young children are being raised by working parents whose earnings are inadequate to lift their families out of poverty, whose work entails long and nonstandard hours, and whose economic needs require an early return to work after the birth of a baby. The consequences of the changing context of parental employment for young children are likely to hinge on how it affects the parenting they receive and the quality of the caregiving they experience when they are not with their parents.
- The developmental effects of child care depend on its safety, the opportunities it provides for nurturing and stable relationships, and its provision of linguistically and cognitively rich environments. Yet the child care that is available in the United States today is highly fragmented and characterized by marked variation in quality, ranging from rich, growth-promoting experiences to unstimulating, highly unstable, and sometimes dangerous settings. The burden of poor quality and limited choice rests most heavily on low-income, working families whose financial resources are too high to quality for subsidies yet too low to afford quality care.
- Young children are the poorest members of society and are more likely to be poor today than they were 25 years ago. Growing up in poverty greatly increases the probability that a child will be exposed to environments and experiences that impose significant burdens on his or her wellbeing, thereby shifting the odds toward more adverse developmental outcomes. Poverty during the early childhood period may be more damaging than poverty experienced at later ages, particularly with respect to eventual academic attainment. The dual risk of poverty experienced simultaneously in the family and in the surrounding neighborhood, which affects minority children to a much greater extent than other children, increases young children's vulnerability to adverse consequences.

### Recommendations

The challenges that arise at the juxtaposition of work, income, and the care of children reflect some of the most complex problems of contemporary society. Rather than offer recommendations for specific actions, many of which have been made before and gone unheeded, the committee wishes to underscore the compelling need for a focused, integrative, and comprehensive reassessment of our nation's child care and income support policies.

- Recommendation 7 The President should establish a joint federal-state-local task force charged with reviewing the entire portfolio of public investments in child care and early education. Its goal should be to develop a blueprint for locally responsive systems of early care and education for the coming decade that will ensure the following priorities: (1) that young children's needs are met through sustained relationships with qualified caregivers, (2) that the special needs of children with developmental disabilities or chronic health conditions are addressed, and (3) that the settings in which children spend their time are safe, stimulating, and compatible with the values and priorities of their families.
- Recommendation 8 The President's Council of Economic Advisers and the Congress should assess the nation's tax, wage, and income support policies with regard to their adequacy in ensuring that no child who is supported by the equivalent of a full-time working adult lives in poverty and that no family suffers from deep and persistent poverty, regardless of employment status. The product of this effort should be a set of policy alternatives that would move the nation toward achieving these fundamental goals.

### Interactions Among Early Childhood Science, Policy, and Practice Are Problematic and Demand Dramatic Rethinking

Policies and programs aimed at improving the life chances of young children come in many varieties. Some are home based and others are delivered in centers. Some focus on children alone or in groups, and others work primarily with parents. A variety of services have been designed to address the needs of young children whose future prospects are threatened by socioeconomic disadvantages, family disruptions, and diagnosed disabilities. They all share a belief that early childhood development is susceptible to environmental influences and that wise public investments in young children can increase the odds of favorable developmental outcomes. The scientific evidence resoundingly supports these premises.

### Conclusions

• The overarching question of whether we can intervene successfully in young children's lives has been answered in the affirmative and should be put to rest. However, interventions that work are rarely simple, inexpensive, or easy to implement. The critical agenda for early childhood intervention is to advance understanding of what it takes to improve the odds of positive outcomes for the nation's most vulnerable young children and to determine the most cost-effective strategies for achieving well-defined goals.

- The scientific knowledge base guiding early childhood policies and programs is seriously constrained by the relatively limited availability of systematic and rigorous evaluations of program implementation; gaps in the documentation of causal relations between specific interventions and specific outcomes and of the underlying mechanisms of change; and infrequent assessments of program costs and benefits.
- Model early childhood programs that deliver carefully designed interventions with well-defined objectives and that include well-designed evaluations have been shown to influence the developmental trajectories of children whose life course is threatened by socioeconomic disadvantage, family disruption, and diagnosed disabilities. Programs that combine child-focused educational activities with explicit attention to parent-child interaction patterns and relationship building appear to have the greatest impacts. In contrast, services that are based on generic family support, often without a clear delineation of intervention strategies matched directly to measurable objectives, and that are funded by more modest budgets, appear to be less effective.
- The elements of early intervention programs that enhance social and emotional development are just as important as the components that enhance linguistic and cognitive competence. Some of the strongest long-term impacts of successful interventions have been documented in the domains of social adjustment, such as reductions in criminal behavior.
- The reconciliation of traditional program formats and strategies—many of which emphasize the importance of active parent involvement and the delivery of services in the home setting—with the economic and social realities of contemporary family life is a pressing concern. Particularly urgent is the need to ensure access to these intervention programs for parents who are employed full-time, those who work nonstandard hours, and those who are making the transition from public assistance to work.
- Early childhood policies and practices are highly fragmented, with complex and confusing points of entry that are particularly problematic for underserved segments of the population and those with special needs. This lack of an integrative early childhood infrastructure makes it difficult to advance prevention-oriented initiatives for all children and to coordinate services for those with complex problems.
- The growing racial, ethnic, linguistic, and cultural diversity of the early childhood population requires that all early childhood programs and

medical services periodically reassess their appropriateness and effectiveness for the wide variety of families they are mandated to serve. Poor "take-up" and high rates of program attrition that are common to many early intervention programs, while not at all restricted to specific racial, ethnic, or linguistic groups, nonetheless raise serious questions about whether those who design, implement, and staff early childhood programs fully understand the meaning of "cultural competence" in the delivery of health and human services.

- The general political environment in which research questions are formulated and investigations are conducted has resulted in a highly problematic context for early childhood policy and practice. In many circumstances, the evaluation of intervention impacts is largely a high-stakes activity to determine whether policies and programs should receive continued funding, rather than a more constructive process of continuous knowledge generation and quality improvement.
- As the rapidly evolving science of early child development continues to grow, its complexity will increase and the distance between the working knowledge of service providers and the cutting edge of the science will be staggering. The professional challenges that this raises for the early childhood field are formidable.

### Recommendations

- Recommendation 9 Agencies and foundations that support evaluation research in early childhood should follow the example set by the nation's successful approach to clinical investigation in the biomedical sciences. In this spirit, the goals of program-based research and the evaluation of services should be to document and ensure full implementation of effective interventions, and to use evidence of ineffectiveness to stimulate further experimentation and study.
- Recommendation 10 The time is long overdue for state and local decision makers to take bold actions to design and implement coordinated, functionally effective infrastructures to reduce the long-standing fragmentation of early childhood policies and programs. To this end, the committee urges two compelling first steps. First, require that all children who are referred to a protective services agency for evaluation of suspected abuse or neglect be automatically referred for a developmental-behavioral screening under Part C of the Individuals With Disabilities Education Act. Second, establish explicit and effective linkages among agencies that currently are

charged with implementing the work requirements of welfare reform and those that oversee the provision of both early intervention programs and child and adult mental health services.

• Recommendation 11 — A comprehensive analysis of the professional development challenges facing the early childhood field should be conducted as a collaborative effort involving professional organizations and representatives from the wide array of training institutions that prepare people to work with young children and their families. The responsibility for convening such a broad-based working group or commission should be shared among the fields of education, health, and human services.

### RESEARCH AND EVALUATION

Research has historically played a significant role in enhancing human development and preventing, ameliorating, and treating a range of conditions that can begin prenatally, at birth, or during the early years of life. To identify priorities among the many possible recommendations that could be made for promising further research, the committee was guided by three goals.

First, it is clear that the capacity to increase the odds of favorable birth outcomes and positive adaptation in the early childhood years would be strengthened considerably by supporting creative collaborations among child development researchers, neuroscientists, and molecular geneticists. Second, there is a pressing need to integrate basic research aimed at understanding developmental processes with intervention research that assesses efforts to influence developmental outcomes. Such collaborative initiatives hold the promise of advancing both understanding of environmental effects on development and improving the effectiveness of the nation's early intervention strategies. Third, the entire early childhood evaluation enterprise warrants a thorough reassessment in order to maximize opportunities for valid causal inference and generalization, to assess what has been learned cumulatively across the full array of evaluation studies, and to establish a constructive environment for discussion of ongoing research and its application to policy. The themes and issues presented below are elaborated in the committee's full complement of research priorities in the final report.

### Integrating Child Development Research, Neuroscience, and Molecular Genetics

Enormous potential exists at the intersection of child development research, neuroscience, and molecular and behavioral genetics to unlock some of the enduring mysteries about how biogenetic and environmental factors interact to influence developmental pathways. These include: (a) understanding how experience is incorporated into the developing nervous system and how the boundaries are determined that differentiate deprivation from sufficiency and sufficiency from enrichment; (b) understanding how biological processes, including neurochemical and neuroendocrine factors, interact with environmental influences to affect the development of complex behaviors, including self-regulatory capacities, prosocial or antisocial tendencies, planning and sustained attention, and adaptive responses to stress; (c) describing the dynamics of gene-environment interactions that underlie the development of behavior and contribute to differential susceptibility to risk and capacity for resilience; and (d) elucidating the mechanisms that underlie nonoptimal birth outcomes and developmental disabilities.

#### Integrating the Basic Science of Human Development and the Applied Science of Early Childhood Intervention

There are currently few avenues for integrating knowledge gained from basic developmental science and from evaluations of early interventions. Yet both enterprises ultimately seek to improve children's early outcomes and life opportunities. A great deal stands to be gained from deliberate efforts to forge ongoing interactions among scientists engaged in these complementary yet largely disconnected research traditions. Among the important objectives to be addressed are: (a) enhanced understanding, detection, and treatment of early precursors of psychopathology; (b) improved preventive and ameliorative interventions for women and children who are exposed to biological insults and adverse environmental conditions, as well as for children with identified disabilities; (c) the identification of modifiable mechanisms that link impoverished family resources to both adverse outcomes for individual children and persistent disparities across groups of children in learning skills and other developmental capacities; and (d) refined understanding of how interventions and the staff that implement them can work effectively with families that differ along dimensions defined by race and ethnicity, immigration status, religion, or other cultural characteristics. The capacity of research to address these objectives will hinge in part on investments in improving the available tools for measuring important, but generally neglected early developmental outcomes, such as the multiple components of self-regulatory and executive capacities, and the ability to make friends and engage with others as a contributing member of a group, as well as on increased efforts to evaluate the biological systems that are affected by early interventions.

EXECUTIVE SUMMARY

15

#### Improving Evaluations of Early Childhood Interventions

To improve the nation's capacity to learn from evaluations of early childhood interventions, the committee recommends substantially increased attention to program implementation as an integral component of all early childhood evaluation research, the adoption of higher standards for the use of rigorous and appropriate evaluation study designs, the inclusion of early childhood outcomes in evaluations of broad-based community and economic interventions, and the convening of regular forums at the National Institutes of Health to synthesize evaluation research evidence across programs and strategies that share similar developmental aims.

#### **CONCLUDING THOUGHTS**

As this report moved to completion, it became increasingly clear to the members of the committee that the science of early childhood development has often been viewed through highly personalized and sharply politicized lenses. In many respects, this is an area in which personal experience allows everyone to claim some level of expertise. Moreover, as a public issue, questions about the care and protection of children confront many of the basic values that have defined our country from its founding—personal responsibility, individual self-reliance, and restrained government involvement in people's lives. In a highly pluralistic society that is experiencing dramatic economic and social change, however, the development of children must be viewed as a matter of intense concern for both their parents and for the nation as a whole.

In this context, and based on the evidence gleaned from a rich and rapidly growing knowledge base, we feel an urgent need to call for a new national dialogue focused on rethinking the meaning of both shared responsibility for children and strategic investment in their future. The time has come to stop blaming parents, communities, business, and government, and to shape a shared agenda to ensure both a rewarding childhood and a promising future for all children.

The charge to this committee was to blend the knowledge and insights of a broad range of disciplines to generate an integrated science of early childhood development. The charge to society is to blend the skepticism of a scientist, the passion of an advocate, the pragmatism of a policy maker, the creativity of a practitioner, and the devotion of a parent—and to use existing knowledge to ensure both a decent quality of life for all of our children and a productive future for the nation.

# From Neurons to Neighborhoods

## The Science of Early Childhood Development

Committee on Integrating the Science of Early Childhood Development

Jack P. Shonkoff and Deborah A. Phillips, *Editors* 

Board on Children, Youth, and Families

National Research Council and Institute of Medicine

NATIONAL ACADEMY PRESS Washington, D.C.

#### NATIONAL ACADEMY PRESS 2101 Constitution Avenue, N.W. Washington, D.C. 20418

NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competences and with regard for appropriate balance.

The study was supported by funds provided by the National Institute of Child Health and Human Development, the National Institute of Mental Health, the Office of Maternal and Child Health Bureau of the Health Resources and Services Administration, the Substance Abuse and Mental Health Services Administration, the Centers for Disease Control and Prevention, the National Institute of Nursing Research, the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Planning and Evaluation, the Administration on Children, Youth, and Families, the Administration for Children and Families, the Office of Special Education Programs in the U.S. Department of Education, The Commonwealth Fund, the Ewing Marion Kauffman Foundation, the Heinz Endowments, the Irving B. Harris Foundation, and National Academies funds. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the organizations or agencies that provided support for this project.

#### Library of Congress Cataloging-in-Publication Data

From neurons to neighborhoods: the science of early child development / Jack P. Shonkoff and Deborah A. Phillips, editors.

p. cm.

Includes bibliographical references and index. ISBN 0-309-06988-2 (hardover : alk. paper)

1. Child development—United States. 2. Preschool children—United States. 3. Preschool children—Services for—United States. 4. Nature and nurture—United States. 5. Early childhood education—United States. I. Shonkoff, Jack P. II. Phillips, Deborah. HQ767.9.F76 2000

301.231-dc21

00-010760

Additional copies of this report are available from National Academy Press, 2101 Constitution Avenue, N.W., Lockbox 285, Washington, D.C. 20055. Call (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area). This report is also available online at http://www.nap.edu

Printed in the United States of America

Copyright 2000 by the National Academy of Sciences. All rights reserved.

Suggested citation: National Research Council and Institute of Medicine (2000) From Neurons to Neighborhoods: The Science of Early Childhood Development. Committee on Integrating the Science of Early Childhood Development. Jack P. Shonkoff and Deborah A. Phillips, eds. Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Washington, D.C.: National Academy Press.

### THE NATIONAL ACADEMIES

National Academy of Sciences National Academy of Engineering Institute of Medicine National Research Council

The National Academy of Sciences is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Bruce M. Alberts is president of the National Academy of Sciences.

The National Academy of Engineering was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. William A. Wulf is president of the National Academy of Engineering.

The Institute of Medicine was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and, upon its own initiative, to identify issues of medical care, research, and education. Dr. Kenneth I. Shine is president of the Institute of Medicine.

The National Research Council was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Bruce M. Alberts and Dr. William A. Wulf are chairman and vice chairman, respectively, of the National Research Council.

## COMMITTEE ON INTEGRATING THE SCIENCE OF EARLY CHILDHOOD DEVELOPMENT

- JACK P. SHONKOFF (Chair), Heller Graduate School, Brandeis University DEBORAH L. COATES, Department of Psychology, The City University of New York
- GREG DUNCAN, Institute for Policy Research, School of Education and Social Policy, Northwestern University
- FELTON J. EARLS, Department of Child Psychology, Harvard Medical School
- ROBERT N. EMDE, Department of Psychiatry, University of Colorado Health Sciences Center
- YOLANDA GARCIA, Children's Services, Santa Clara County Office of Education
- SUSAN GELMAN, Department of Psychology, University of Michigan SUSAN J. GOLDIN-MEADOW, Department of Psychology, University of Chicago
- WILLIAM T. GREENOUGH, Departments of Psychology and Cell and Structural Biology, University of Illinois at Champaign-Urbana
- RUTH T. GROSS, Department of Pediatrics (emeritus), Stanford University Medical School
- MEGAN GUNNAR, Institute of Child Development, University of Minnesota
- MICHAEL GURALNICK, Center on Human Development and Disability, University of Washington
- ALICIA F. LIEBERMAN, Department of Psychiatry, University of California at San Francisco
- BETSY LOZOFF, Center for Human Growth and Development, University of Michigan
- BRIAN MacWHINNEY, Department of Psychology, Carnegie Mellon University\*
- RUTH MASSINGA, The Casey Family Program, Seattle, Washington STEPHEN RAUDENBUSH, School of Education, University of Michigan ROSS THOMPSON, Department of Psychology, University of Nebraska
- CHARLES A. NELSON (liaison from the MacArthur Foundation/ McDonnell Foundation Research Network on Early Experience and Brain Development), Institute of Child Development, University of Minnesota

DEBORAH A. PHILLIPS, Study Director NANCY GEYELIN MARGIE, Research Assistant RONNÉ WINGATE, Senior Project Assistant

<sup>\*</sup>Resigned October 1998.

#### BOARD ON CHILDREN, YOUTH, AND FAMILIES

- JACK P. SHONKOFF (Chair), Heller Graduate School, Brandeis University
- EVAN CHARNEY (Vice Chair), Department of Pediatrics, University of Massachusetts Medical Center
- JAMES BANKS, Center for Multicultural Education, University of Washington
- SHEILA BURKE, John F. Kennedy School of Government, Harvard University
- DAVID CARD, Department of Economics, University of California, Berkeley
- DONALD COHEN, Department of Child Psychiatry, Yale University MINDY FULLILOVE, Department of Clinical Psychobiology, Columbia University
- KEVIN GRUMBACH, Department of Family and Community Medicine, University of California, San Francisco
- MAXINE HAYES, Community and Family Health, Department of Health, Olympia, Washington
- MARGARET HEAGARTY, Department of Pediatrics, Harlem Hospital Center, Columbia University
- RENÉE JENKINS, Department of Pediatrics and Child Health, Howard University Hospital
- SHEILA KAMERMAN, School of Social Work, Columbia University
- HARRIET KITZMAN, School of Nursing, University of Rochester
- SANDERS KORENMAN, School of Public Affairs, Baruch College
- HONORABLE CINDY LEDERMAN, Circuit Court Judge, Juvenile Division, Dade County, Florida
- SARA McLANAHAN, Office of Population Research, Princeton University
- VONNIE McLOYD, Department of Psychology, University of Michigan, Ann Arbor
- PAUL NEWACHECK, Institute of Health Policy Studies and Department of Pediatrics, University of California, San Francisco
- GARY SANDEFUR, Department of Sociology, University of Wisconsin, Madison
- RUTH STEIN, Department of Pediatrics, Albert Einstein College of Medicine
- PAUL WISE, Department of Pediatrics, Boston Medical Center
- RUTH T. GROSS (liaison from the Board on Health Promotion and Disease Prevention, Institute of Medicine), Department of Pediatrics (emeritus), Stanford University

ELEANOR MACCOBY (liaison from the Commission on Behavioral and Social Sciences and Education, National Research Council),
Department of Psychology (emeritus), Stanford University
WILLIAM ROPER (liaison from the Institute of Medicine), School of
Public Health, University of North Carolina, Chapel Hill

MICHELE D. KIPKE, Director
ELENA O. NIGHTINGALE, Scholar-in-Residence
MARY GRAHAM, Associate Director, Dissemination and
Communications
MARY STRIGARI, Administrative Associate

## Acknowledgments

rom Neurons to Neighborhoods is the product of a two-and-a-half-year project during which 17 individuals, as a committee, evaluated and integrated the current science of early childhood development. In view of the wide range of scientific and policy considerations that fall within the scope of the committee's mandate, it is particularly significant that the funding for this project was provided by a broad diversity of public and private sponsors: Administration for Children and Families, Administration on Children, Youth, and Families, Assistant Secretary for Planning and Evaluation, Centers for Disease Control and Prevention, Maternal and Child Health Bureau of the Health Resources and Services Administration, National Institute for Child Health and Human Development, National Institute of Mental Health, National Institute of Nursing Research, and the Substance Abuse and Mental Health Services Administration, all of the U.S. Department of Health and Human Services; Office of Special Education Programs in the U.S. Department of Education; The Commonwealth Fund; Irving B. Harris Foundation; Heinz Endowments; and Ewing Marion Kauffman Foundation. The committee wishes to express particular appreciation to Duane Alexander, director of the National Institute of Child Health and Human Development, and Ann Rosewater, regional director of the U.S. Department of Health and Human Services for Region IV, who played a critical role in organizing an early meeting with potential federal sponsors and demonstrated unwavering faith in the ability of the committee to address its very ambitious charge.

Beyond the expertise and diligence of the committee, we had the ex-

x

traordinary good fortune of working with a number of highly knowledgeable people who shared our enthusiasm for this project. We are deeply indebted to the intellectual insights and support that they provided.

In June 1999 the committee convened a two-day Workshop on the Science of Developmental Promotion and Early Childhood Intervention. Participants included leading researchers and practitioners from the fields of pediatric primary care and nursing, child care and early childhood education, child welfare, mental heath, public health, early intervention for children living in poverty, and early intervention for children with developmental disabilities: Kathryn Barnard, University of Washington; Barbara T. Bowman, Erikson Institute, Chicago; Jeanne Brooks-Gunn, Columbia University; Mary Beth Bruder, University of Connecticut Health Center; Mary Dozier, University of Delaware; Dale Farran, Vanderbilt University; Veronica Feeg, George Mason University; Barbara Howard, Johns Hopkins University School of Medicine; Jane Knitzer, Columbia University; Samuel Meisels, University of Michigan; Craig Ramey, University of Alabama at Birmingham; Arnold Sameroff, University of Michigan; Ruby Takanishi, Foundation for Child Development; Deborah Klein Walker, Massachusetts Department of Public Health; Mark Wolery, University of North Carolina at Chapel Hill; and Hiro Yoshikawa, New York University. All of the workshop participants, both in their prepared written comments and through their contributions during the discussion sessions, added valuable scientific input to the committee's work. Two additional workshops organized by the Board on Children, Youth, and Families, one on home visiting interventions and another on early precursors of antisocial behavior, also contributed greatly to our work. The committee and staff are grateful to everyone who participated in these meetings.

We also wish to acknowledge several consultants who contributed to the committee process: Donald Hernandez, State University of New York at Albany, who provided data and advice on the demographics of the birth to five age group; Laurence Leonard, Purdue University, who advised us on atypical language development; Joshua Brown, Columbia University, for his synthesis of the literature on the developmental consequences of community violence; Kathleen Allen-Wallner, National Institute on Child Health and Human Development, for her synthesis of research on regulation of attention and executive function in young children; and Michael Georgieff, University of Minnesota Hospital, who provided extensive information and advice on the effects of prematurity on early brain development. We would also like to thank Bonnie Keilty, a doctoral student in education and human development at George Washington University, for her assistance with the committee's review of the literature on early intervention and her staff support for the Workshop on the Science of Developmental Promotion and Early Childhood Intervention. In addition, many generous hours of expert

xi

consultation were provided by Charles A. Nelson, chair of the John D. and Catherine T. MacArthur Foundation and James S. McDonnell Foundation Research Network on Early Experience and Brain Development, who served as a formal liaison to the committee.

In addition to formal workshops, a number of individuals were invited to make presentations and participate in discussions at committee meetings. In December 1998, H. Hill Goldsmith, University of Wisconsin at Madison, Kathleen R. Merikangas, Yale University, and David Reiss, George Washington University Medical Center, participated in a panel on the genetics of early development, which informed the committee about cuttingedge research on a range of issues in this area. In July 1999, Joseph Campos, University of California at Berkeley, addressed the interplay of experience and early brain development, and Robert LeVine, Harvard University, spoke about the promise of cross-cultural research, the symbiotic development of individuals and societies, and the importance of integrating knowledge and research methods from a variety of disciplines.

A number of experts assisted the committee by responding in writing to questions about the relations among culture, early childhood development, and early interventions. We are grateful to the following individuals for their thoughtful comments on this issue: Catherine Cooper, University of California at Santa Cruz; Doris Entwisle, Johns Hopkins University; Andrew Fuligni, New York University; Harriette McAdoo, Michigan State University; Suzanne Randolph, University of Maryland at College Park; Diana Slaughter-Dafoe, University of Pennsylvania; Paul Spicer, University of Colorado Health Sciences Center; Ruby Takanishi, Foundation for Child Development; and Thomas Weisner, University of California at Los Angeles.

We would also like to thank Thomas Cook and Ken Howard, Northwestern University, for sharing their expertise in intervention methods and for helping the committee examine research and evaluation methods in depth.

Shortly after the initiation of the study process, the committee interviewed a broad cross-section of individuals involved in early childhood policy and service delivery (in contrast to research) to ensure that the final report would be responsive to the issues that practitioners and local and state government officials are dealing with every day. We are grateful to the following people for taking the time to share their expertise: Douglas Baird, Associated Day Care Services; Hedy Chang, California Tomorrow; Veronica Feeg, George Mason University; Andrea Genser, Center for Career Development in Early Care and Education, Wheelock College; Stacie Goffin, National Association for the Education of Young Children; Douglas Howard, Family Independence Agency, State of Michigan; Elizabeth Iida, SRI International; Barbara Ferguson Kamara, Office of Early Child-

xii

hood Development, District of Columbia Department of Human Services; Andrew Kennedy, Los Angeles County Office of Education; Joan Lombardi, Child and Family Policy Specialist, formerly with the Child Care Bureau of the U.S. Department of Health and Human Services; Matthew Melmed, Zero to Three: National Center for Infants, Toddlers and Families; Cheryl Mitchell, Vermont Agency of Human Services; Karabelle Pizzigatti, Child Welfare League of America; Calvin Sia, Hawaii Medical Association; Jolene Smith, Santa Clara County, Social Services Agency; Valora Washington, Unitarian Universalist Service Committee; and Barry Zuckerman, Boston Medical Center.

We are grateful to the following people for reviewing our syntheses of research on a variety of topics: Geraldine Dawson, University of Washington, for reviewing the section on maternal depression; Michael Georgieff, University of Minnesota Hospital, and Sandra Jacobson, Wayne State University, for their careful reading and feedback on early versions of Chapter 8, The Developing Brain; Lawrence Hirschfeld, University of Michigan, for clarifying our representation of his work on preschoolers' conceptualization of race; Tama Leventhal, Columbia University, for her assistance with the literature on continuity of care and turbulence; Kenneth Rubin, University of Maryland, Willard Hartup, University of Minnesota, and Carollee Howes, University of California at Los Angeles, for reviewing early drafts of Chapter 7, Making Friends and Getting Along with Peers; Delia Vazquez, University of Michigan Medical School, and Seymour Levine, University of California at Davis, for reviewing the section on neuropeptides; and Steven Warren, Vanderbilt University, for reviewing a portion of Chapter 6, Communicating and Learning.

Dozens of scientists provided articles, papers, chapters, and books. We are most appreciative of the generous responses to requests for information that we received from: Lynette Aytch, University of North Carolina at Chapel Hill; John Barks, University of Michigan; Cathryn Booth, University of Washington; Mary Bowler, U.S. Bureau of Labor Statistics; Sandra Calvert, Georgetown University; Harry Chugani, Wayne State University; James Connor, Pennsylvania State University; E. Mark Cummings, University of Notre Dame; Geraldine Dawson, University of Washington; Barbara Devaney, Mathematica Policy Research, Inc.; Susan Dickstein, Brown University; JoAnn Farver, University of Southern California; Marc Fey, University of Kansas Medical Center; Daniel Goldowitz, University of Tennessee; Mari Golub, University of California at Davis; John Hewitt, University of Colorado at Boulder; Jay Hirschman and colleagues, U.S. Department of Agriculture; Myron Hofer, Columbia University; Carollee Howes, University of California at Los Angeles; Aletha Huston, University of Texas at Austin; Mark Innocenti, Utah State University; Sandra Jacobson, Wayne State University; Mark Johnson, Birkbeck College, University of London;

xiii

Jerome Kagan, Harvard University; Peter Kaplan, University of Colorado at Denver; Eric Knudsen, Stanford University; Mary Clare Lennon, Columbia University; Tama Leventhal, Columbia University; Mark Lipsey, Vanderbilt University; Bruce McEwen, The Rockefeller University; Editha Nottelman, National Institute of Mental Health; David Olds, University of Colorado at Denver; Joy Osofsky, Louisiana State University Health Sciences Center; Bruce Pennington, University of Denver; Tony Raden, Columbia University; Mabel Rice, University of Kansas; Donald Roberts, Stanford University; Robert Sapolsky, Stanford University; Mary Schneider, University of Wisconsin at Madison; Carla Shatz, University of California at Berkeley; L. Alan Sroufe, University of Minnesota; Phillip Strain, University of Colorado at Denver; Ann Streissguth, University of Washington; Douglas Teti, University of Maryland at Baltimore County; Edward Tronick, Harvard University; Delia Vazquez, University of Michigan Medical School; Peter Vietze, New York State Institute for Basic Research in Developmental Disabilities; Douglas Wahsten, University of Alberta; Joanne Weinberg, University of British Columbia; Larry Wissow, Johns Hopkins University; Fred Wulczyn, Chapin Hall Center for Children, University of Chicago; Paul Yoder, Vanderbilt University; and Charles Zeanah, Jr., Tulane University School of Medicine.

We would also like to thank Gina Adams and Jennifer Ehrle, The Urban Institute, who provided data from the 1997 National Survey of American Families; Jerry West and DeeAnn Brimhall, U.S. Department of Education, who generated multiple tables for us from the 1999 National Household Education Survey; Paul Newacheck, University of California at San Francisco, who provided data from the 1996 National Health Interview Survey; Christine Ross, Mathematica Policy Research, Inc., who provided information about infant child care in the context of welfare reform; Steve Savner and Rachel Schumacher, Center for Law and Social Policy, who provided information from the State Policy Documentation Project; and Kristen Smith, U.S. Bureau of the Census, who provided data from the Survey of Income and Program Participation.

This report has been reviewed by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the Report Review Committee of the National Research Council. The purpose of this independent review is to provide candid and critical comments that will assist the authors and the National Research Council/Institute of Medicine in making the published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process.

We thank the following individuals for their participation in the review

xiv

**ACKNOWLEDGMENTS** 

of this report: Thomas Cook, Institute for Policy Research, Northwestern University; Roy D'Andrade, Department of Anthropology, University of California, San Diego; William Danforth, Washington University, St. Louis; Dale D. Farran, Department of Teaching and Learning, Vanderbilt University; Nathan Glazer, Professor of Education and Sociology, Emeritus, Harvard University; Jacqueline Goodnow, Department of Psychology, Macquerie University, New South Wales, Australia; Myron A. Hofer, College of Physicians & Surgeons of Columbia University; Jerome Kagan, Department of Psychology, Harvard University; Sanders Korenman, School of Public Affairs, Baruch College, City University of New York; Eleanor Maccoby, Department of Psychology, Stanford University; Barbara Rogoff, Psychology Department, University of California, Santa Cruz; Michael Rutter, Social, Genetic, and Developmental Psychiatry Research Center, Institute of Psychiatry, London, England; and Richard Weinberg, Institute of Child Development, University of Minnestota.

Although the individuals listed above have provided many constructive comments and suggestions, responsibility for the final content of this report rests solely with the authoring committee and the National Research Council (NRC) and the Institute of Medicine (IOM).

The committee wishes to recognize the important contributions and support provided by several individuals connected to the NRC and IOM. We thank the original members of the Board on Children, Youth, and Families, under the leadership of its founding chair, Sheldon White, who believed in the importance of this study from the time it was first proposed in 1993, and supported the protracted, multiyear search for funding that culminated in its full implementation. We also thank Kenneth Shine, Susanne Stoiber, Barbara Torrey, Faith Mitchell, Michele Kipke, and Clyde Behney for their steadfast support of the project and their critical reviews of early drafts of the report. We are deeply indebted to Eugenia Grohman, associate director for reports of CBASSE, who patiently worked with us through several revisions, and Christine McShane, who provided superb editorial assistance. Mary Graham patiently proofread the entire report and has provided superb advice and assistance with report dissemination, as has Vanee Vines of the National Academies' Office of News and Public Information. We are also grateful to Katherine Magnuson at Northwestern University for her extensive assistance with research on the portions of the report having to do with family resources and neighborhoods. In addition, we wish to acknowledge the research assistance provided by Pam Gardner at the University of Michigan and Jeanette Mitchell and Mariolga Reyes at the City University of New York and the administrative support provided by Amy Belue at the Heller Graduate School at Brandeis University.

Finally, it would be impossible to overstate the extraordinary effort and critical contributions of Nancy Geyelin Margie, research assistant, and

 $x\nu$ 

Ronné Wingate, project assistant, who served as the primary administrative staff for the committee at the NRC. Each of these talented and highly dedicated individuals played the kind of critical role "behind the scenes" that ensures a successful project. We remain deeply grateful for their exceptional level of support.

Jack P. Shonkoff, *Chair*Deborah A. Phillips, *Study Director*Committee on Integrating the Science of
Early Childhood Development

## Contents

EXECUTIVE SUMMARY		1
	I SETTING THE STAGE	17
1 2 3 4	Introduction Rethinking Nature and Nurture The Challenge of Studying Culture Making Causal Connections	19 39 57 70
	II THE NATURE AND TASKS OF EARLY DEVELOPMENT	89
5 6 7 8	Acquiring Self-Regulation Communicating and Learning Making Friends and Getting Along with Peers The Developing Brain	93 124 163 182
	III THE CONTEXT FOR EARLY DEVELOPMENT	219
9 10 11 12 13	Nurturing Relationships Family Resources Growing Up in Child Care Neighborhood and Community Promoting Healthy Development Through Intervention	225 267 297 328 337

Copyright © National Academy of Sciences. All rights reserved. This executive summary plus thousands more available at http://www.nap.edu

xvii

xviii	CONTENTS
IV KNOWLEDGE INTO ACTION	381
14 Conclusions and Recommendations	383
References	417
APPENDIXES	
<ul> <li>A Related Reports from the National Academies</li> <li>B Defining and Estimating Causal Effects</li> <li>C Technologies for Studying the Developing Human Brain</li> <li>D Biographical Sketches</li> </ul>	535 545 549 553
Index	561

## From Neurons to Neighborhoods