NLWJC - Kagan
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0-3 Conference - Conference Report

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Jen/Nicole (copy back side of 1st page)

August 1, 1997

MEMORANDUM

TO: Melanne Verveer
Elena Kagan
FROM: Jennifer Klein
Nicole Rabner
RE: Conference Report

Attached please find the latest draft of the Conference report from the White House Conference on Early Childhood Development and Learning. As you know, over the past few months, we have been working with the writer, and we feel that this draft reflects much improvement from earlier versions. Still, we recognize that it has problems (particularly with some of the language), and we plan to line-edit, with help from Lissa Muscatine.

Before we proceed, we would appreciate your feedback and guidance.

Jen + Nicole

This is good, and I would not spend much time line-editing or doing other small things. The writing, ok. is good enough for government work.

I would try to beef up some of the sections on govt action and policy - certainly at the back ("what government can do"), but also all the way through the "We know what works" section and even in the other "building for success"

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subsections (i.e. show how govt can/has helped communities, businesses, etc.) I say this, not so much because I want to brag about our accomplishments, as because I want to make the case that govt has an extremely important role in this area.

Right now, I think, the report has a "softness" to it — the report makes it seem as it we're not taking this problem particularly seriously from a land-use policy/programmatic point of view. So - to sum up - I think you should spend any remaining time on this report putting in some govern-ment policy. When that happens, I think this will be appeals.

Of course, come talk to me about this anytime.

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"HOW ARE THE CHILDREN?"

REPORT OF THE WHITE HOUSE CONFERENCE ON EARLY CHILD DEVELOPMENT AND LEARNING

P.S - Perhaps most important (and relatedly), we have to discuss the policy announcements we made at the conference - the DOT child care order, the DOT program, and whatever else was on our list.

I. THE WHITE HOUSE CONFERENCE

Nature's gifts are awesome—spacious skies, majestic mountains, fruited plains... we have all sung their praises. Now, tireless researchers and innovative technologies are giving us glimpses of smaller miracles that are just as inspiring. Scientists are studying the minute mechanisms that make life possible, and in the process they are illuminating early brain development—a phenomenon of such elegance, complexity, and precision that it surely ranks as one of the world's great wonders. Today, President Clinton is leading an effort to make researchers' findings available and accessible to all Americans, based on his conviction that we all have a stake in our children's healthy development and learning.

On April 17, 1997, President Clinton convened the *White House Conference on Early Child Development and Learning: What New Research on the Brain Tells Us About Our Youngest Children.*. **[SIDEBAR: CONFERENCE PROGRAM]** This was an historic day—the first time that a President has drawn national attention to research on child development and how it can brighten our nation's future. Thanks to bipartisan support, the federal government has long supported fruitful research on the biological mechanisms that underlie early development and learning. Federal funds have also sustained large-scale early care and education initiatives, such as Head Start, and evaluations of these efforts have yielded new knowledge about the kinds of policies and programs that promote healthy child development.

As a result, experts from around the nation have gathered a large body of knowledge that holds promise for improving the lives of America's children and families. Their insights can inform many fields, notably health care, education reform, and employment policies and practices. For too long, however, these findings have been limited to laboratories and research libraries—far removed from the living rooms where American families raise their children day by day and do their best to make sound decisions on their behalf. They have remained on the pages of professional journals, remote from the preschools and playgrounds where so many young children spend their days.

By convening the Conference and reporting to the public on its results, President Clinton has sought to assemble knowledge and resources that Americans can draw upon as they sort out what the new research means for themselves and their children. In October, a second White House

Conference will follow up on this effort by focusing on ways to make high-quality child care and early education available to more American working families.

In taking these steps, the President is building on a longstanding commitment to children that has brought about many victories for the youngest Americans and their families. Over the last five years the President has worked with Congress to extend health coverage to as many as five million uninsured children. He fought for and won the Family and Medical Leave Act that has enabled 12 million Americans to take time off from work to care for new babies or to meet other urgent family needs covered by that law. He has supported and expanded Head Start and created Early Head Start serving disadvantaged children aged three and younger. The 1994 Head Start Reauthorization also established a new program for low-income pregnant women and families with infants and toddlers, aimed at promoting children's healthy developing, helping parents become better caregivers and teachers of their children; and helping parents achieve their own goals, including economic independence. The Child Care and Development Block Grant Amendments of 1966 will allow states and communities to engage in the multi-year process needed to plan child care services that respond to the needs of their families. President Clinton has also committed his Administration to supporting and disseminating research showing how infants and toddlers develop and learn and how Americans, beginning with parents, can harness these findings to help all of our children fulfill their promise. Finally, the President has won the largest funding increase for education in three decades.

By convening the White House Conference, the President called together experts who rarely have opportunities to share viewpoints and experiences, including brain scientists, specialists in child development, researchers and practitioners in early care and education, and leaders of the family support movement. Speakers included not only scientists, but also a former first-grade teacher who founded an organization that has changed the lives of thousands of low-income children; a parent whose experiences in an early childhood PTA gave her new confidence and competence as she raised her young son; a police chief who has brought community policing to his city; a Hollywood director and producer who is using his craft to raise public awareness of the importance of the early years; and a CEO who is determined to put on kitchen tables all over the nation information about concrete steps that families can take to enhance their children's development.

Conference participants represented decades of research and experience, and much of the

nation's best thinking on how to strengthen early childhood development and learning. At more than one hundred satellite sites all over the nation, thousands of other Americans listened to the panelists and held their own discussions. Many responded with ideas and questioned addressed to the President and First Lady, and their concerns are reflected throughout this report. In particular, parents have shared their own stories and have expressed great eagerness to learn more about their impact on their children's early development.

A growing body of research now confirms that parents play a decisive role in shaping the future of their daughters and sons, and of our nation as a whole. Study after study shows that the kind of nurture children receive in the first years of life has a direct effect on how their brains are "wired," affecting their ability to grow into able, confident learners and productive members of families and communities. In this way, people who raise children bear a great burden of responsibility, and Conference participants pondered how to convey the extent of parents' influence without adding to their burdens.

But in fact, a key lesson that emerged from the Conference is that parenthood is the art of the possible. Scientists report that the people who care for children have a greater impact on early brain development than they previously knew, but they also say that babies don't need "super parents" in order to thrive. Research shows over and over again that what matters most is the quality of the relationships young children form with the adults who care for them. Ordinary, everyday interactions—the baby talk and songs and games that are so easy and enjoyable for children and adults alike—are exactly what young brains thrive on.

Researchers and practitioners at the Conference also emphasized that while the early years offer special opportunities, parents, caregivers, and teachers have countless chances, over many years, to influence children's development and learning. The brain is the last organ in the body to mature, and its development takes a lifetime. It is never too late to help a child—or an adult—learn. That is why President Clinton has challenged the nation to strengthen education at every level and in every stage of life, from early childhood through post-secondary and adult education.

By the same token, it is never too early—and that is why the President has fought for and won legislation to strengthen and expand prenatal and post-partum care for mothers and their babies. These efforts—and many others aimed at supporting young children and their

families—have won public and Congressional support because so many Americans are now convinced that as a nation, we are relying too much on remediation, and too little on prevention. New research on early brain development offers dramatic evidence that young children are biologically primed for learning. If we want all of our children to reach their God-given potential, it makes good sense to begin at the beginning.

That means harnessing all of the knowledge and research available to us about how young children develop and learn. The President is committed to meeting this challenge for a very important reason: children are our future. Ensuring that their families and communities have the information and resources they need to give them the best possible start in life is simply the right thing to do. It is also clearly in the national interest. What could be more crucial to the nation's continued vitality than our children's well-being? Helping our youngest children grow into able learners and productive adults must always be part of the public's business.

That is why the President is spearheading a nationwide campaign to focus attention on the importance of the first years of life. Parents and child advocates have long appreciated the opportunities and risks of the early years. Today, they have many new allies. Decision makers in many arenas are beginning—at some political risk—to address issues that have often been viewed as the exclusive concern of women and therefore dropped to the bottom of the national agenda. Thanks in part to a new awareness of how children's brains develop, policy makers are turning their attention, for stretches of time, from the floors of the House and Senate to the floors of living rooms and child care centers all over America where babies and toddlers play and babble and learn. To a greater extent than has ever been acknowledged, those are the floors where our nation's future is being determined.

Sitting on those floors with the children are their parents—and the caregivers to whom they are entrusted while their parents work. The kinds of connections created over time between these adults and children affect the kinds of connections that form in young brains. Government has the responsibility to bring this knowledge to public attention, but government cannot and should not tell families how to rear their children—and in any case, there is no single "right" approach. There are many ways to raise happy, healthy, capable children. The White House Conference provided a forum for sharing information, struggles, and success stories. While it emphasized parents' responsibilities, it reassured mothers and fathers that they are not alone. All sectors of our society can contribute to children's healthy development. At the end of the day, we are all accountable for

their well-being. We must all answer to the children.

II. What We Have Learned About Young Children: Ten Key Lessons

Across the nation, nearly four million babies are born each year. Each enters the world with immense promise. Each arrives with billions of brain cells just waiting to have their power unlocked. Many of these cells have already begun to link up, but a newborn's brain has yet to form the roughly one hundred trillion precise connections that make up an adult's complex neural networks. For these connections to form and proliferate, cells need a crucial ingredient—*experience in the world.* Once they have it, from the very first days of life, brain cells connect at an astonishing pace. Young brains forge more than enough connections in the first three years of life; as children move toward adulthood, these connections are pruned and fine-tuned. This is good news for us humans. It means that our newborns' capacities—their unique ways of thinking, knowing, and acting—develop in the world, under the sway of the adults who love them and nurture them.

The impact of early experience on early brain development is powerful and specific, and may last a lifetime. This is a major finding of recent brain research, and it represents a sharp departure from ideas about how children develop and grow that have prevailed for centuries. Its implications can be summarized in ten key lessons that emerged at the White House Conference.

1. New Brain Research Underscores the Importance of Education and the Power of Effort

Only in recent decades have scientists fully appreciated the significance of early experience; for most of our history, it was assumed that newborns' brains were largely pre-programmed, and that development consisted in the gradual unfolding of innate abilities and tendencies. Today we base educational policy on the oft-repeated premise that virtually every child can learn to high standards. This hardly sounds like a revolutionary stance, but in the history of education, it is a novel and bold concept. For generations, it was widely believed that based on inborn traits, some children could be expected to become able learners and productive workers, while others were destined to dimmer futures. Experience and education were considered helpful, but could hardly be expected

to overcome nature's pre-set limits Some Americans continue to hold onto this conviction.

New scientific evidence turns this assumption on its head. Heredity certainly plays a role, and geneticists are learning more each day about how genes affect development; but as each child grows and matures, early experience exerts a powerful force, sculpting the genetic "clay."

Today, most experts agree that early development is a complex dance between nature and nurture. Some researchers are producing new evidence that in the early years, nurture leads that dance; one recent study suggests that in infancy and childhood, the impact of experience on cognitive ability is significantly more powerful than the influence of heredity.[1] The relative importance of experience appears to decrease as individuals move throughout the life cycle. This finding is sure to be debated in coming years; but in any case, scientists now underscore the importance of early experience, the power of effort, and the hope of education.

2. CHILDREN DIFFER FROM ADULTS

It is natural to think of babies as ourselves in miniature—adults on a smaller scale. But the more we discover about young brains, the more clear it becomes that young children differ from adults in important ways. They have unique ways of developing, learning, and responding to the world around them. By taking these differences fully into account, parents and professionals can do a better job of meeting young children's needs.

At birth, children's brains are in a surprisingly unfinished state. Newborns have all of the genetic coding required to guide their brain development. What's more, they have nearly all of the billions of brain cells, or neurons, they will need for a lifetime of thinking, communicating, and learning. But these neurons are not yet linked up into the networks needed for complex functioning. It is like having billions of telephones installed around the nation, but not yet completely connected to each other. **[SIDEBAR: PHONING HOME]**

The extreme immaturity of the newborn's brain is uniquely human. We tend to take it for granted, but not every species gives birth to such undeveloped infants. At birth, the human brain is only a quarter of its adult weight; the newborns of other primates are already 40 or 50 percent of

their adult weight. The young of other species are rarely as helpless as newborn humans; nor do they take as long to move toward independence.

This may sound worrisome, but in fact, our initial immaturity gives humans a powerful evolutionary edge. Monkeys and minks and mice are quite limited in terms of the kinds of settings in which they can survive. We humans have found ways to adapt to almost any habitat on earth. Why? In large part, because so much of our brain development takes place in the world—in contact with our environment. That crucial fact means that experience plays a far greater role in the wiring of our brains. Our developing nervous systems can be significantly altered and fine-tuned by experience. This makes humans uniquely flexible and adaptable. It also allows us to have far greater individuality than other species.[2] Different people's brains—even those of identical twins—will be wired very differently, based on their responses to different input.

The key point is that the preponderance of human brain development takes place in the world, as babies respond to the people who protect and nurture them, the homes that are created for them, and the communities and conditions that surround them. If babies' brains were completely hard-wired—if all of the circuitry were pre-programmed—this wouldn't be possible.

3. The Young Brain is a Work in Progress

A young child's brain is a work in progress, and scientists are now able to watch it unfold. Thanks to new, computer-based imaging technologies, such as ultrasound, MRI, and PET scans, they can now see the brain's structures in greater detail than ever before. They can get a glimpse of how the brain responds to different kinds of experience and how it uses energy. They can see how the brain looks and functions at different stages of development—including in the months before birth.

The prenatal period is an important time of brain development. Crucial steps in early brain development take place very early in pregnancy, before many women know that they are expecting. For example, within weeks of conception, cells that are destined to become neurons have to find their way to the correct position in the part of the brain most responsible for reasoning and learning. For brain development to proceed normally, each cell has to makes its journey at the right time, in the right order. Nature has powerful mechanisms to guide the process—including a

great deal of genetic coding, and expectant parents can rest assured that in the vast majority of cases, development proceeds just as it should. But even in the womb, the brain is vulnerable to environmental influences. When pregnant women have inadequate nourishment, when they smoke, drink, or take drugs, or when they are exposed to toxic substances, their babies' brain development may be jeopardized. Research also suggests that when they suffer abuse, or extreme stress, or severe depression, their babies may be affected.

Newborns have more awareness of the world than most of us realized. On the first day of life, a newborn can look at her surroundings, study objects, and gaze in the eyes of her mother or father. Infants as young as two days of age will sometimes suck at the mere sight of a breast or bottle, suggesting that learning takes place from a child's earliest hours of life.[3] But the process of getting to know the world is just beginning. At birth, a newborn cannot yet make sense of the flood of sensation and information that comes his way.

After birth, brain development proceeds at an astonishing rate. Newborns' brains are literally waiting for the experiences that will determine their mature, complex circuitry. As new experiences arrive, young children's brains respond by forming and reinforcing trillions of connections, or synapses, among neurons. In the time that it takes for Mom to nurse the baby or for grandpa to read *Goodnight Moon* , thousands of new synapses are produced. At the same time, thousands of existing synapses are used or "fired" and in the process are reinforced.

Connections form so quickly that by the time children are three, their brains have twice as many synapses as they will need as adults. These trillions of synapses are competing for space in a brain that is still far from its adult size. According to *Rethinking the Brain*, a report by the Families and Work Institute released at the White House Conference, by the time a child reaches her third birthday, her brain is apt to be more than twice as active as that of her pediatrician.[4] Children are biologically primed for learning, and the first three years are particularly crucial.

If children have more synapses than they will have as adults, what happens to the trillions of excess connections? The answer is: they are shed as children grow. Scientists report that throughout the development process, the brain is producing new synapses, strengthening existing ones, and getting rid of synapses that aren't used often enough. Before the age of three, synapse production is by far the dominant process; from three to ten, the processes are relatively balanced,

so the number of synapses stays about the same. But as children near adolescence, the balance shifts, and the shedding of excess neurons moves into high gear.

Brains downsize for the same reason so many other "organizations" do: with streamlined networks, they can function more efficiently. But how does the brain "decide" which connections to shed and which to keep? Here again, early experience plays a decisive role. Each time synapses fire, beginning with the early months and years of life, they get sturdier and more resilient. Those that are used often enough tend to survive; those that are not used often enough are history. In this way, a child's experiences in the first years of life affect her brain's permanent circuitry.

4. Children Are Individuals from the Start

Because experience in the world so powerfully affects early development, no two brains grow and mature in the same way. Children are individuals right from the start because day by day, different people will have markedly different experiences—even those raised in the same culture, the same locality, or even the same household. Even the brains of identical twins develop differently, based on their early surroundings, care, and interactions with the adults who care for them.

Within our vast and varied nation, children are born into widely different circumstances and cultures, joining families that have different structures and sizes, hold different beliefs, and bring to childrearing different assumptions and preferences. They may be raised by mothers and fathers, by adoptive or foster parents, by single parents, or by a grandparent or other relative. All of these parents pass on to children their knowledge, their heritage, their language, and their values.

In these ways, parents have great influence, but as anyone who has ever raised a child can attest, no parent can completely plan or predict how a son or daughter will grow and develop. The environment and experiences that parents provide are crucial, but many other factors are also at work, and parents cannot regulate (or take responsibility for) every aspect of their children's development. Newborns arrive with different temperaments, strengths, and needs. Many children are born with abilities or disabilities that present them and their families with special challenges. Some boys and girls encounter difficulty despite their families' love and commitment; others show remarkable resilience, growing into hearty children and able learners despite circumstances that

overwhelm other young people. While the researchers at the White House Conference were eager to explain the importance of early experience, none would argue for replacing the notion of genetic "programming" with the idea of experiential "programming." The new brain research answers many questions about how children grow and develop, but it does not diminish the complexity of their individual lives and life choices.

5. Relationships Matter

In the first years of life, parents have considerable (though not complete) control over the kinds of experiences their children are exposed to. But what kind of experiences do infants and toddlers need? Researchers have begun to address this question. They are finding that more than anything else, young children need secure attachments to the adults who care for them.

Babies discover very quickly that they are not alone. From birth, they are capable of observing and interacting with other people. Babies grasp that the world we've brought them into is a fascinating place. When they are awake and alert, they lose no time exploring their surroundings with all of their senses. But nothing is more interesting or important to them than their mothers and fathers. Very early in life, babies turn most eagerly toward the voices of the people they know best.

Human children are dependent—to a greater extent and for a longer stretch of time than the young of other species. They are also trusting. They turn to parents and other caregivers for reassurance or help. They believe that these adults will nurture and protect them, unless repeated experience teaches them otherwise.

They know that interacting with parents and other important people—communicating, mimicking, playing, snuggling—is the best way to spend their most alert, wakeful hours. Babies respond to touch, sound, images, tastes, smells. They are at ease when they receive warm, responsive care geared to their needs, moods, and temperament. When this kind of care comes consistently from the same adult or adults, young children form secure attachments. They sense that they are loved and protected even during quiet or sleepy times, when they are left to rest, play by themselves, and get to know themselves and their surroundings.

When children form secure attachments, their development—including their brain development—tends to flourish. Long-term studies show that children who have secure attachments early in life make better social adjustments as they grow up, and do better in school.[5] But when care is inadequate, or mechanical, or inconsistent, young children experience tension—and research shows that this stress affects their heart rate, brain waves, and their brains' biochemistry. A major finding of recent research is that chronic stress can have an adverse impact on the brain, and can result in develomental delays. This finding is borne out by studies of young children who are subjected to extreme social and emotional deprivation over extended periods, such as those raised in Eastern European orphanages.

Some parents may be understandably unsettled by research showing that the way they relate to their young sons and daughters, and the experiences they provide or arrange, help to determine how their children's brains will be wired. They may wonder: Did I pay enough attention to Jake and Daniel when they were babies? How many connections formed—or failed to form—during the ten minutes Emily was left to cry so Robert's bee sting could be tended to? What about all the times the neighbor lost his temper and shouted at Rebecca? Has musical potential been wiped from Melissa's brain because we never played Mozart or Bach?

But when you look at life from a baby's viewpoint, you realize that you don't have to be a perfect parent. What matters to young children is your ability to understand their needs and to read their signals— most of the time; to respond with warmth and affection—most of the time; to model the pleasures of conversation and turn-taking—most of the time; to protect them from life's minor bumps and bruises—some of the time; to shield them from neglect and abuse—all of the time.

The key point is: relationships matter. Social experience has a greater impact on brain development—including children's emerging intellectual capacities—than many scientists had realized. Many parents have suspected that they play a role, from the first weeks of life, in fostering their babies' intelligence, but according to a survey conducted by Zero to Three (and released at the White House Conference), fully a quarter of parents do not believe this. The research is clear, however. Children learn in the context of important relationships: interactions with parents, grandparents, brothers and sisters, and other family members. Biology is not the chief factor in good parenthood: adoptive parents and foster parents can have a large, sustained impact on children's development. So can grandparents. So can child care providers who are

steady presences in children's lives. And so can family friends and neighbors. Again, while opportunities are especially strong in the early years, important relationships make a difference for children at any age.

6. OTHER CAREGIVERS CAN MEET YOUNG CHILDREN'S NEEDS—BUT DON'T TAKE THE PLACE OF MOM OR DAD.

Research shows that children are capable of forming strong attachments to more than one adult, but not all attachments are equally strong or compelling. Babies tend to prefer their primary caregiver—usually mom. But they quickly learn that other people can meet their needs, and that different people—dad, or Uncle Mike, or grandma, or Ms.Cutler—have different ways of caring for them. In this way, they begin to get a sense of life's complexity and richness.

Fathers have a great deal to offer their children. Addressing the Conference, Vice President Gore noted research showing that the attachment a child forms with his or her father is critical to that child's development. When fathers are active caregivers, their children tend to have higher IQs and are less prone to violence. Of course, these effects hinge on the quality of the relationship a father establishes with his young children as well as the amount of time he devotes to caring for them. More fathers than ever before are taking primary responsibility for young children, but stay-at-home dads or "househushands" are still likely to encounter social disapproval.

Traditional roles are changing slowly in most families. Research in the early eighties reported that fathers, on the average, spent less than half an hour per day directly interacting with their children—playing with and caring for them. More recent studies are showing that many men have somewhat increased the time they spend interacting with their children and taking care of them.[6] Many fathers say that they meet obstacles when they try to take more responsibility for their children. Some say that they would spend more time with their sons and daughters if they met less resistance from the children's mothers. Many say that if their employers adopted more family-friendly policies, they would willingly devote more time to caring for, playing with, and talking to their young children. President Clinton is encouraging such policies, and fighting for an expansion of the Family and Medical Leave Act that would enact a form of flex-time fathers and mothers the option of forgoing overtime pay in order to spend time with their children.

The role of fathers cannot be discussed without acknowledging that fathers are increasingly absent from the home. More than a quarter of all American children are born to unmarried mothers. At the same time, divorce rates are rising. There are some signs of progress. Under the Clinton administration, teen pregnancy rates have gone down, and the collection of child support payments have gone up. By focusing on fathers' needs and roles, not only employers, but also family support organizations, parent education programs, health care providers, and human service agencies can play an important part to support men who are having difficulty finding a place for themselves in the family setting.

Child care providers can be important people in young children's lives, but they do not take the place of parents. Recent studies show that high quality child care does not disrupt young children's attachments to their parents—so long as parents spend enough time with their infants and toddlers to know them well, care for them confidently, and read their signals and cues. **[SIDEBAR: CHILD CARE AND THE FAMILY.]**

In fact, child care providers—with sufficient training and support—can enhance the development of the children in their care, supplementing the parents' input. Children benefit when parents and child care providers work together, exchanging information, insights, and problem-solving strategies on a regular basis.

7. "SMALL TALK" HAS BIG CONSEQUENCES

Many aspects of children's environments affect early brain development—all of the sights and sounds and textures that surround them. But recently scientists have been homing in on linguistic experience as a key ingredient. More precisely, they are stressing the importance of "small talk"—the millions of ordinary greetings, exclamations, explanations, complaints, and wordless utterances exchanged between adults and children in the course of the early years.

Over the last quarter century, scientists have learned a great deal about how children acquire language. Parents have long suspected that babies' babbling is basic training for speech, and that their gestures and cries eventually evolve into more sophisticated forms of communication. But new research shows that infants make more rapid progress in cracking the language code than we previously thought. From their early months, they are paying close attention to the language they

hear.[7] By the time they reach their first birthdays, they are well on their way to mapping the sound structure of their language—or, in multilingual homes, to the language they hear most consistently. **[SIDEBAR: CITIZENS OF THE WORLD]**

Adults have special ways of talking to children that help them analyze language. Intuitively, they speak more rhythmically, slowing down their speech, exaggerating phonetic shifts, and simplifying their vocabulary and grammar. Speakers of "parentese" often set their words to enticing melodies that act as an acoustic hooks, pulling the baby's attention to them. This kind of talk lets babies know that they are being addressed; punctuated by pauses, it helps young children learn that relating to others is about taking turns. Many kinds of early interactions—even a game of peekaboo or mimicry of a baby's faces—can lay the groundwork for effective communication later in life.

But some parents do not realize the importance of talking to their children in the first year, before their children are old enough to begin talking back. They may feel self-conscious when they talk to an infant who cannot respond; they may have grown up in cultures that value silence or non-verbal communication; or they may have few positive models of conversation between parents and young children. Some parents may be too tired or stressed to engage in lighthearted chitchat with their babies. It is easy to empathize with these mothers and fathers, but research suggests that their children may be missing out on important learning opportunities.

How can researchers gauge the impact of early interchanges? A common-sense approach is to observe numerous infants, recording their interactions with their parents or caregivers, and then to follow each child's progress over several years to see how he or she develops and fares in school. One recent study found that a child's earliest language experiences does indeed affect later achievement. For a period of two-and-a-half years, beginning with birth, the researchers spent an hour each month documenting every spoken word and every parent-child interaction in each of 42 homes. They found that the more parents talked to and interacted with their babies, the greater the children's chances for success when they reached elementary school. They concluded that both the number of words exchanged and the tone in which they were said made a difference. All of the children in the study learned to use language and construct complex sentences, but the children who were talked to at a younger age had a stronger grasp of the conceptual possibilities of language, and became better problem solvers.[8]

In summary, linguistic experience constitutes an important part of the setting in which young children grow up—and can have a positive or negative effect on children's development. Very young children who may not make sense of words nevertheless respond to tone. Language that is soothing, or novel, or buoyant in tone can spark their curiosity and help them feel secure and engaged in family life; at the same time, cascades of negative comments or commands can certainly provoke stress, even when the words are not directed at the children, and even when infants or toddlers are too young to fathom their literal meaning.

Once parents know about this kind of research, most will want to make "small talk" with their infants more frequent, warm, and responsive, and they will want to be sure that child care providers are talking with their babies as well. The prospect of keeping up a steady flow of conversation may sound exhausting, but babies appear to benefit from exactly the kinds of commentary that run through parents' and caregivers' minds as they move through their day. In the study mentioned above, the patter that went on between the chatty parents and their infants was not about Buddhism or Beethoven—or, for that matter, brain science. You need not discuss complex ideas to help your infant learn. But a stream of statements like, "Your cereal is almost ready," or "Daddy is looking for his keys," appears to help babies become more conceptual thinkers later in life. Simple questions like, "How was your nap?" or "What did we do today?" can make a world of difference.

8. Children Need Many Kinds of Stimulation

Children need chances to stretch not only their linguistic and conceptual abilities, but also their powers of perception, their social prowess, their aesthetic and moral capacities, and their bodies. When children are severely deprived of experience in any of these areas, their development may be delayed. For example, babies and toddlers who spend most of their waking hours in their cribs develop more slowly than other young children; some cannot sit up at 21 months, and most cannot walk by age three.[9] Children need opportunities for vigorous, safe physical activity. They need touch, sounds, and images. They need social and emotional contact. And they need thought-provoking activities. Most adults who care for children have some awareness of these needs. But despite parents' best intentions, many infants and toddlers do not get enough intellectual stimulation. This was a major finding of *Starting Points*, an influential Carnegie Corporation

report on meeting the needs of young children that was cited at the White House Conference.[10] *Starting Points* reported that only half of infants and toddlers are routinely read to by their parents.

On the other hand, too much stimulation can be overwhelming. Young children have different temperaments and different moods. They also have different daily cycles of wakefulness and sleepiness than adults. Their capacity to respond to different kinds and amounts of stimulation can fluctuate from hour to hour, or even from minute to minute. Aside from seeing to their children's basic health and safety, the most important thing parents can do is to learn to follow their children—to read their moods and preferences, so they can, whenever possible, adjust activities, schedules, and even the way they touch and talk to their young children.

With practice, many mothers and fathers become quite adept at reading their children's cues and signals, and they learn to anticipate their needs. But like so many aspects of parenting, this is easier said than done. Like most adults, children can sometimes be volatile and unpredictable—and some more than others. From birth, children appear to have different temperamental characteristics. Research suggests that most infants and toddlers have traits that make them "easy" children; but a significant number—about ten percent—have difficult temperaments. They tend to be moody, to express intense emotion, and to resist efforts to comfort them or cheer them up.[11]

Furthermore, some children are born with, or develop, disabilities or illnesses that may impede their ability to form strong relationships and to respond to different kinds of stimulation. Some children are born with severe retardation, or autism, or mental illness. Others may have learning disabilities that do not fully respond to current treatment methods. Research points to new ways to help every child reach his or her full capacities. Working with professionals, parents can gain the information and strategies they need to support their sons and daughters as they gain new skills and new confidence. New ways of approaching impairments like mental retardation or autism are helping to improve conditions that were once considered untreatable. But some children will continue to have difficulties no matter how much love, care, attention, and stimulation their mothers and fathers provide. Professionals and parents alike need to keep their focus on brain development, not blame development.

9. PREVENTION IS CRUCIAL

The brain does not develop all at once. Different parts of this complicated organ mature at different times and at different rates. Although development continues throughout life, there are periods of great opportunity (and risk) when a particular part of the brain is the site of intensive wiring and is therefore especially flexible. These are known as critical periods.

The classic example is vision. The visual part of the brain is wired early in life. An infant who is born with cataracts may lose her sight permanently if surgery is not performed on time. That is because during the critical period for vision, input from the outside world is essential. The brain relies on this experience, and when it does not arrive on time, the part of the brain that controls vision cannot fully develop. Time is of the essence. But if this infant's grandfather develops cataracts, the situation is very different. Because grandpa long ago received the visual stimulation his brain needed to process visual information, even an extensive delay in surgery will not compromise his ability to see.

The concept of "critical periods" helps to explain why the early years are so important, and why it can be so hard for parents and teachers to make up later for experiences that were missed in the first years of life. Research shows that during these years, responsive care and appropriate stimulation can produce the kind of rapid intellectual, social, and emotional growth that does not usually come as easily to older children. In most cases, there is plenty of time for children to get the stimulation they need. Generally speaking, critical periods do not appear to be as narrow for cognitive and social growth as they are for, say, vision. For example, the critical period for language development can stretch for more than a decade. In this sense, the early years are rife with opportunity.

At the same time, the early years are also filled with risk. Untreated health problems, poor nutrition, exposure to tobacco, alcohol, drugs, or environmental toxins, and abuse and neglect are always risky, but may be especially perilous in the first years of life. Traumatic experiences and non-stop stress are also particularly harmful early in life; they affect production of a steroid hormone called cortisol that can have an adverse impact on brain development. And when mothers suffer from severe depression that persists beyond the baby's sixth month, children's brain development may be affected.

The bottom line is that in the early years of life, prevention and early intervention are crucial. When health problems are dealt with, when family stress is reduced, when mothers seek treatment for depression, young children tend to fare better. The earlier the intervention, the better. The more follow-up, the better. These are simple lessons. As they are applied more widely, results for young children are bound to improve.

10. The Cradle Will Rock

Unconditional love goes to the heart of what it means to be a parent. But love is not enough. From a child's viewpoint, good care is responsive care. It requires getting to know a particular child very well, and that is not simply a matter of instinct or affection; it usually takes time and practice and help from more experienced caregivers. Parents and caregivers don't always get it right the first time, or even the second, but if they are willing to follow the children, if they are willing to learn from their mistakes, they eventually come to understand their needs and temperaments.

Mistakes are inevitable. As the lullaby promises, the cradle will rock. A baby who is full will be coaxed to eat. A toddler will be tossed into the air by an enthusiastic dad when what he really needs is a cuddle and a nap. And parents will frequently realize, after the fact, that they could have found a better way to handle a problem. No parent gets it right every time. One expert on child development has said that when she makes a mistake with her own children, she vows not to repeat that particular mistake...for at least two weeks.

Of course, some mistakes cannot be tolerated. There is never an excuse for abuse or neglect, or for household dangers that imperil children's lives. But young children will inevitably miss a meal, scrape their knees, or overhear their parents argue. They can easily survive the ordinary ups and downs of daily life, as long as the care they receive day by day is usually warm, responsive and consistent. In fact, these ups and downs are among the experiences that help their brains to mature. What's more, when children have a secure attachment to the adults who care for they, they are indulgent. They know that when we disappoint them, we deserve many more chances.

III. We Know What Works

Researchers and policy makers still have a great deal to learn about how children grow and learn, but we know enough to begin now to promote their healthy development. Research and practice in many fields—including not only brain science but also medicine, psychology, education, cognitive science, and organizational development—have produced an immense body of knowledge, leading to better, more informed, approaches to helping young children and their families. This knowledge rests on thousands of studies and evaluations of hundreds of programs—far too many to summarize in a single report. But we can distill from them fundamental lessons about effective strategies.

Preventive, family-oriented health care works

We Americans take pride in having created a truly advanced society. In the realm of science and technology, we have few rivals. People from around the globe seek information and treatment from our health professionals. Given our resources and the value we place on life, liberty, and the pursuit of happiness, we should have the world's lowest rate of infant mortality. And we do—but only in our more affluent communities. When the nation is considered as a whole, we lag behind more than a dozen other countries in ensuring infant survival. Among African American women, infant mortality is twice as high as it is for white women. The United States also ranks below many other countries in immunization rates and health coverage for pregnant women and children. Compared to other countries, we have a high proportion of low birthweight babies.

We can do better—if we take a preventive approach to health care and make adequate prenatal care available to more expectant mothers. The facts are clear: good prenatal care dramatically boosts women's chances of giving birth to a healthy babies. It is also a sound investment. For example, prenatal care reduces the number of low-birthweight infants; every time it does, the nation's health care system saves up to $30,000.[12]

Prenatal care also lead to better nutrition for expectant mothers and infants a critical factor in children's healthy development. The government provides critical nutritional support by means

of the WIC program, which provides nutrition to pregnant women and infants, and food stamps for low-income families. [Add accomplishments here.] But expectant parents need information and guidance about the kinds of foods and food supplements needed for good health. The ideal situation is for prospective parents to receive information and support even before they conceive a child. This is sometimes called "preconception care" and it can boost the health of mothers and babies, as well as fathers' knowledge and confidence.

Prenatal care is unquestionably important in the early months of pregnancy. And yet, many women still do not get adequate prenatal care. About one in five expectant mothers in our country receives no care during the crucial first trimester. For Black, Hispanic, and American Indian women, the figure is one in three. Some lack health care coverage that would pay for early visits. Others don't know where to go, or how to get there, or why a doctor would want to see them when they are not even "showing." Efforts are needed to ensure that the public is better informed, that prenatal care is accessible and affordable, and that care is not delayed while eligibility is established. Aggressive outreach is needed to encourage more prospective parents to seek early care. And preconception and prenatal care should encompass not only health care and risk assessments, but also solid information and services such as screening and treatment for depression, smoking cessation, and treatment for alcohol abuse. While maternal health is the main focus of prenatal care, children benefit when fathers are brought into the process from the outset.

Prenatal care is a good start—but only a start—for a lifetime of good health. Infants and toddlers need regular well-child care, the full set of recommended immunizations, and swift attention when they show signs of illness or developmental delays. That is why health coverage is so important. [Update this section -- add accomplishments.] Health care is especially important for the nearly 3 million infants and toddlers living in a family with an income below the federal poverty level, since these children are at significantly higher risk for infant mortality, low birthweight, physical or mental disabilities, fatal accidents, and common health problems such as asthma, frequent diarrhea, pneumonia, or dental problems.

Once parents have access to health care for their children, it must be family-centered. Many parents want more information, reassurance, and resources during well-baby visits than traditional pediatric practices can provide. When health care providers (and insurers) restructure their policies and practices to provide services that meet parents' needs and emphasize prevention, children benefit.

As Americans intensify efforts to improve health care for young children and their families, we can learn from the experiences of other countries, including both industrialized and developing nations. Immunization is a good example. Recently, American leaders travelled to Africa as part of President Clinton's initiative, Lessons Without Borders. They brought back ideas about how campaigns to improve health care and promote immunization rates have been planned and implemented. The Mayor of Baltimore was among the visitors, and the ideas he brought back, including mobile van services, have begun to make a difference for his city's young children.[13]

FAMILY SUPPORT AND PARENT EDUCATION WORK—ESPECIALLY WHEN THERE IS FOLLOW-UP

Writing about the importance of parent education, an American physician asserted that parents too often undertake their new roles "without previous instruction, or without forethought; they undertake it as though it could be learned either by intuition, by instinct, or by affection. The consequence is, that frequently they are in a sea of trouble and uncertainty, tossing about without experience or compass."[14]

This statement was written nearly a century ago by one of our nation's first women physicians, and despite the fact that we have advanced light years in terms of the medical and scientific knowledge, the need for family support and parent education remains as strong as ever—perhaps stronger, since today Americans are far more mobile, and are less able to count on advice and help from extended family living in their households or around the block.

Raising children is challenging for all parents; it is certainly stressful for the nation's large number of very young parents. Recently, the birthrate for adolescents has decreased slightly, although the problem remains serious. [Add accomplishments?] Each year teenage mothers give birth to nearly half a million babies. Today, 3.3 million children live with adolescent mothers. These young mothers have a particular need for parent education and support. They are much less likely than other mothers to take advantage of prenatal care, and those who are 16 or younger are more likely to have low-birthweight children—with all of the health and developmental problems associated with that condition. In general, children born to teenage parents, especially those living with their mothers alone, appear to be more likely than other children to have continuing health

problems.[15]

But all parents can benefit from family support and parent education. Parents want more information. Most say they have a pretty good idea what to look for in terms of their babies' physical development, but need more help recognizing social and emotional milestones. They are perplexed by recent findings about the importance of the early years. They know they need to stimulate their children, but how? and how much? And how can they be sure that the other adults who care for their children will give them what they need?

Parents want to do a good job. But many go to bed at night convinced that they haven't spent enough quality time with their children. More than half of today's parents believe they are not doing as good a job at childrearing as their own parents did.[16] The survey conducted by Zero to Three confirms that few first-time parents feel fully prepared for their new role; those who are the youngest and have the lowest income, and those who are going it alone as single parents, feel particularly unprepared. They also want more information—including the findings about early brain development that were presented at the White House Conference. The Zero to Three survey found that 60 percent of parents are "extremely" or "very" interested in this subject, and another 21 are "fairly" interested.

But surveys are not the only indications that people who have responsibility for young children want help. Existing family support and parent education services are at full capacity, books and magazines on child care are widely read, and on-line parent resources are expanding. Pediatricians say they are frustrated that they have so little time to respond to parents' long lists of questions and concerns, and some are restructuring their practices to meet this need. Executives at one corporation that set up an 800 number for parents report that the help lines have been flooded with calls, and say that they have been amazed that so many people are eager for information and support that they would turn to unseen, anonymous advisers.

Family support and parent education programs are often aimed at new mothers, but can also help fathers adapt successfully to their new roles. The best programs address not only childrearing issues, but the challenges parents are meeting as they raise their families, such as getting and keeping jobs, resolving conflict, and managing their time.

A number of well established family support programs have been subjected to rigorous evaluation. For example, an evaluation of Avance, a family support program that has served low-income, predominantly Hispanic families over more than two decades, has demonstrated clear, long-lasting benefits for participants and their children. In general, research evidence on comprehensive family support programs is promising but not conclusive. Comprehensive, multifaceted programs are difficult to evaluate because they encompass so many activities, and tailor services to the needs of different families. Different programs serve children of different ages and target different kinds of families, so it is hard to make comparisons of their impact or cost-effectiveness.

We do know, however, that programs emphasizing home visitation can produce impressive results, particularly when they begin with prenatal care and include follow-up into the elementary school years. Programs that include regular home visits appear to be particularly effective in meeting new parents' informational needs and allaying their anxieties. **[SEE SIDEBAR: THERE'S NO PLACE LIKE HOME.]** Twenty-five years ago, when hospital stays for new mothers were twice as long, there was more time for advice and instruction—and new parents have a lot to learn. Nursing an infant is certainly a natural process, but the know-how to begin successfully does not come naturally. The same is true for diapering or bathing a newborn, or dealing with cradle cap, or establishing daily (and nightly) routines. Even a minimum hospital stay of 48 hours—which the President fought for and won—is not always enough time for parents to adjust to their new responsibilities before they bring their newborns home. Follow-up is helpful, but today, only one in five families receives follow-up visits by nurses. As the months pass, most parents gain confidence and competence, but they can still benefit from advice about how to keep track of a baby's development, how to recognize and deal with illnesses and emergencies, how to baby-proof their homes, choose toys for their children, and play and chat with children at different ages. Some home visitors make videotapes. These tapes help parents learn what to look for as they watch their children grow, and can spur important discussions of children's development in the context of family dynamics.

HIGH QUALITY CHILD CARE AND EDUCATION WORK

Today, more than half of all mothers go back to work before their babies' first birthdays. Many

choose to continue their careers while raising a family; others might prefer to stay home, but have no choice. After all, 55 percent of working women are indispensable providers, contributing half or more of family income.[17] Other mothers must work or attend training to meet new welfare requirements.

As a result, the great majority of infants and toddlers are in non-maternal care for some stretch of time. This is a potential opportunity. Studies that have followed children's progress over decades, such as the Perry/High Scope Preschool Study, have shown that high quality early care and education programs produce long-term benefits, especially for children from low-income families. Programs with well trained staffs and strong curricula (geared to children's needs at each stage of development) have been shown to promote cognitive, social, and emotional development in young children. Children who attend such programs fare better in elementary school, especially if there receive ongoing support as they move through the grades. They are less likely to be held back and less likely to be referred for special education. Some effects have been shown to persist into adulthood.[18]

The trouble is—high-quality, affordable child care is hard to come by. Researchers who have observed and rated child care programs (including both child care centers and family day care settings) say that many are poor to barely adequate. They may have unqualified or poorly trained staff; too many children for each staff member; inadequate facilities; or other shortcomings. Programs for infants and toddlers appear to be the worst of all.[19] Moreover, child care schedules often do not mesh with parents' work schedules. Many parents resort to makeshift arrangements; their children may be in several locations or programs during the course of a single day.

Given the realities of today's families, the need for affordable, high-quality child care has been hoisted high on the national agenda as an issue that affects not only children's healthy development, but also parents' ability to work outside the home with the concentration and peace of mind needed to succeed in today's demanding workplaces. Researchers and practitioners are shaping many proposals to define and improve quality in early care and education, addressing ways to upgrade the training, qualifications, and working conditions of child care providers; mechanisms for assuring safe environments for young children; and the content of early childhood curricula. Some take a broad view, arguing that changes must be made not only in programs, but also in the policies, financing strategies, and accreditation practices that underlie the nation's child

care services.[20] These efforts provide a broad framework for improving child care so that children can thrive and parents can work and learn with peace of mind.

Today, child care is at a crossroads. Ideas abound for improving services, but states and localities need the time and resources to plan and coordinate reform efforts. Otherwise, improvement efforts may lead to further fragmentation. To improve child care, ensuring safe and healthy care for children of all ages, President Clinton signed into law the Child Care and Development Block Grant Amendments of 1996. Under this legislation, states and communities can apply for multi-year federal funding that they can use to plan more cohesive child care services that respond to the needs of all of their families.

As President Clinton has often said, there isn't a problem that isn't being solved somewhere in this country. We can base tomorrow's early care and education programs on the experience of today's successful programs. For example, much can be learned from the experience of the military, which has instituted excellent child care programs by requiring substantial basic training for caregivers, offering them a career ladder, and providing sufficient wages and benefits to reduce staff turnover. **[SIDEBAR: ON THE LAND, IN THE AIR, ON THE SEA...AND IN THE SANDBOX.]**

A COMPREHENSIVE APPROACH WORKS

Finally, to meet the many needs of our youngest children, we need a comprehensive approach. This is the toughest challenge of all. It is difficult, in part, because Americans tend to resist "systems." When it comes to young children, however, we pay systematically when we provide piecemeal services that let so much promise slip through the cracks.

If all of the core institutions discussed in the following chapter were to work together, and take concrete steps to coordinate their approaches, our communities could begin to move toward better results for children. But this effort challenges many people and many institutions to examine their policies and practices, and to begin to make necessary changes. It means reordering priorities. This is not easy, nor can it be quickly accomplished. It will take sustained attention and work.

IV. Building on Success

The accomplishments of recent years can be solidified and extended. [Add more about accomplishments here?] No endeavor promises more long-term benefits for our nation than giving children a better start in life. But for this effort is to succeed, every sector of our society must make a vital contribution.

What Parents and Families Can Do

Parents can support their children's healthy development by doing what parents do best—loving their children, spending time with them, chatting with them, protecting their health and safety, and creating the predictable routines and consistent limits that help children feel secure. They can stimulate their children's intellectual growth by reading to them and engaging them in age-appropriate activities that will tap their creativity and spark their curiosity.

Generations of parents need no convincing that raising children is taxing, both physically and emotionally. But it requires not only stamina, but also skill; not only nerve, but also knowledge. Mothers and fathers can enhance their children's development by becoming better informed about parenthood—beginning even before their children are conceived. Today, countless parent education programs, publications, radio talk shows, TV specials, videos, and web sites are available in communities across the nation. Family support organizations, child care centers, libraries, hospital and health clinics, human service agencies, and schools and universities are among the institutions that make these resources available to their communities.

Parents' familiarity with all of these institutions also benefits children. Community involvement not only increases parents' knowledge and contacts; it also interrupts the isolation so many mothers and fathers feel. And as young children grow, their parents' ability to access services and programs on their behalf becomes very important.

As parents reach out for information and support, two kinds of learning are particularly important. The first is learning to observe children closely, to notice their rhythms and preferences, and to read and respond to the signals they send by means of body language, crying

and other sounds, facial expressions, and responses to various stimuli.

The second kind of knowledge challenges parents to know not only their babies, but also themselves. Child development specialists often speak of the "ghosts in the nursery"—the experiences in mothers' and fathers' pasts that affect their own parenting, consciously or not.[21] By thinking and talking together about their own upbringing, parents and other caregivers can gain insight into their own responses to their children. Why does the sound of crying drive Yvonne so crazy? Why does Kyle lose his temper so quickly when the children squabble? Thinking about their own responses can make parents more patient and intentional as they react to their own children.

WHAT LOCAL COMMUNITIES CAN DO

At satellite downlink sites around the nation, the local residents who gathered to view and discuss the White House Conference responded to speakers' viewpoints, related research findings to the concerns of their own communities, and sent feedback to the White House. Some emphasized the need for better preparation for child care providers. Others called for a special focus on teen parents. Many expressed a deep concern for the fate of abused and neglected children. But one theme was sounded most emphatically: the needs of young children and their families are so diverse and complex that no single institution can fully meet them. There is an urgent need to mobilize whole communities, and to ensure greater coordination of efforts.

Coordination of efforts requires strenuous effort, and efficient, frequent communication among a wide range of service providers. It challenges professionals who may have only superficial knowledge of each other's roles to work together, crossing borders into different organizational cultures. Police officers need to be talking to mental health specialists; welfare caseworkers need to be in frequent contact with the staffs of family support organizations; health care professionals need to link up with child care providers. All of these professionals—and many more—need to be sharing information in ways that benefit children and families without violating their rights to privacy.

When coordination is strong, fewer children fall through the cracks. Most communities have a long way to go, because services for children and families are spread among so many

agencies and organizations, and tend to be so fragmented. The challenges are immense—both in terms of logistics, record keeping, and communication, and will require a great deal of time and effort. It requires every community institution to make active, sustained efforts to link up with other institutions, agencies, or programs that affect children development and learning, or have potential for doing so. This kind of collaboration might include monitoring and documenting children's health, safety, and progress toward developmental milestones, analyzing the factors that promote or hinder healthy development and learning, and make the changes needed to improve results for all children.

But coordinating existing services is not enough. People must also come together to envision a future in which children and families will thrive, and to take steps to move the entire community toward that future. This is happening more and more frequently. In mayors' offices, town halls, houses of worship, and parent gatherings across the nation, a promising movement to mobilize communities is now underway. Parent groups, community leaders, policy makers, business groups, and many others are working together to shape broad-based action strategies aimed at improving results for young children and their families. As a foundation program officer recently observed, "leadership for change is bubbling up from the local level, as it must because one-size-fits-all solutions will not work in diverse communities...."[22] In many places, community mobilization efforts have resulted in the creation of Children's Councils to bring together the concerns and ideas of community members and policy makers. In other places, leadership on behalf of children has taken other forms—from parent groups, clergy, community organizers, educational leaders, health professionals, or other sources.

Communities can come together in many ways. Each pursues a vision that make sense for its people and circumstances. But in any community, children and their families benefit when all of the institutions that touch children's lives work together to articulate a set of common principles, and then align their policies and practices with those principles. That way, wherever children and families turn, they find people who share basic assumptions and commitments. Common principles would vary from community to community, but might include the following:[23]

- Ensure that every expectant mother receives timely care.
- Give every child access to the health care and support they need to get a good start in life, physically and emotionally.

- Help children build stable, trusting relationships with the adults who care for them.
- Support the adults who influence development and learning, and include both mothers and fathers in all parent involvement efforts.
- Focus on prevention, and respond quickly when problems arise.
- Set high expectations for every child.
- Offer varied, engaging appropriate activities that foster development, including opportunities for conversation and turn-taking that begin in the early weeks of life.
- Make efficient, equitable use of resources, expanding successful efforts and eliminating those that are not effective.
- Collaborate with other institutions.
- Take responsibility for results.

WHAT EDUCATIONAL LEADERS CAN DO

No challenge has a higher place on the President's domestic agenda than strengthening American education. He has called upon Americans to ensure that every child can read well and independently by the third grade. At the same time, the Clinton Administration is working closely with the states to put into place educational standards that set high expectations for all students, while providing the learning opportunities and resources our young people need to meet those standards.

If our children are to meet the high standards we set for them, however, the nation's commitment to promoting learning and healthy development cannot take effect only when they enter elementary school. Across the nation, elementary school principals are hearing from their kindergarten teachers that large numbers of children—by some estimates, one-third—are not "ready to learn."[24] That is, they are unprepared for the kinds of academic, social, and emotional challenges they are meeting in their kindergarten classrooms. Many principals are addressing this problem by shifting their focus from "ready children" to "ready schools"—rethinking kindergarten settings and programs to make them ready for the children who will fill them.

That approach is wise—but insufficient. As the education research plan issued recently by the U.S. Department of Education noted, there is mounting evidence that educational efforts that begins only a age five—the traditional age of entry into public schools—are too late and have

limited payoff for children's schooling.[25] School leaders need to work more closely with the preschools and child care programs whose children will be soon be moving into their kindergartens, sharing curricula and engaging teachers and caregivers in joint professional development activities. Educational leaders need to become involved in community-based efforts to support young children's healthy development and learning. To the extent possible, they need widen their focus, communicating with and providing support to parents from the time their future students are born.

As things stand, few districts or elementary schools make systematic efforts to stay in contact with their communities' early care and education programs. In a national survey, 10 percent of schools reported systematic communication between kindergarten teachers and their kindergartners' previous caregivers or teachers; 12 percent said that their kindergarten curricula were designed to build on preschool programs. The vast majority of our elementary schools have no formal policy governing activities aimed at strengthening continuity and smoothing transitions. Different communities and schools benefit from different kinds of transition activities, but research shows that across the nation, the success of such efforts hinge on the involvement and support of principals and district-level administrators.[26]

Educational leaders can take many concrete steps, at the national, state, and local levels, to support the healthy development and learning of children before the age of five. In so doing, they can not only provide more continuity for children, but also move the nation toward the first national education goal—school readiness for all.

WHAT BUSINESS LEADERS CAN DO

Business leaders are increasingly acknowledging that they share significant responsibility for the well-being of the families with young children who count among their customers, employees, and neighbors. They are keenly aware that today's tots are tomorrow's work force. They are realizing that investments in early development and learning will save billions of dollars now spent by corporate America on basic skills training for employees. Moreover, they are recognizing that their employees can work more productively when they are free from worry about the care their young children are receiving while they are at work.

Some are making very active efforts, leading community mobilization efforts, pioneering more "family-friendly" employee practices, and supporting innovation and research. Some are creating or subsidizing child care programs for their employees' small sons and daughters. Others are forming coalitions of business leaders to address these issues on a larger scale.

Business leaders have unique access to American households through their products and services, and through their advertising capacity. As one panelist noted, the back panels of cereal packages are one of the most powerful communication vehicles in America. Those who sell to families with small children tend to have a great deal of credibility with consumers. All of these companies can provide to parents and other caregivers important information—including insights that spring from recent brain research.

[Need to add information on CEO summit announced at conference.]

WHAT THE MEDIA CAN DO

Media experts have often remarked that in America, if it isn't on television, it isn't real. This is hyperbole, of course, but it does suggest the powerful impact of the broadcast media on our society and its institutions. Programming that sheds light on the importance of the early years, by reporting on new child development research, sharing success stories, and highlighting effective practices, help to build and sustain efforts in states and communities across the nation to improve results for young children and families.

Media decision makers are increasingly taking young children into account as they make decisions about programming. They have also responded to President Clinton's call for V-chips and a TV rating system, giving parents more control over their children's program selections. These measures—once considered unlikely—are now in place. However, the broadcast media can do much more, supporting more programming aimed at parents with small children, increasing educational fare on TV and the radio, and disseminating new research findings. As the "I Am Your Child" campaign has demonstrated, media figures are powerful influencers who can help engage Americans from every walk of life in a large-scale effort.

The print media are devoting more space to children's issues, and more journalists are now

devoting themselves to the children's beat. To be sure, when a toddler is kidnapped or falls in a well, they capture headlines. But new findings about how children develop or the state of America's child care still tend to appear on back pages, or the "women's page." There has been significant progress, but the print media can do still more to communicate the importance of healthy development in the early years of life.

Finally, any discussion of the media's role must include the Internet and other electronic outlets for the dissemination and exchange of knowledge. Many web sites, reflecting diverse concerns and emphases, offer advice to parents or let parents and caregivers chat on-line. Some are sponsored by corporations that specialize in baby products. Others have been created by national organizations, child advocacy groups, and research institutions or universities. Over time, these resources will expand. But information on the Internet is not always reliable; it has not been fact-checked as articles in reputable newspapers and magazines usually are. Parents may need help evaluating the knowledge and advice they receive. Efforts to strengthen Internet offerings for parents need to take into account the wide gap that now exists between technology "haves" and "have nots." Communities can provide access to more of their residents by placing appropriate technology in libraries, workplaces, schools, community organizations, museums, housing projects, and other places where parents can use them.

WHAT GOVERNMENT CAN DO

At every level, government can make sure that parents have a range of choices about how to raise and care for their young children, as well as the tools and information that can help them make sound decisions. The federal government has a strong role to play in shaping legislation and policies that promote the health, well-being, and learning of young children and their families; supporting research; disseminating its findings; and providing technical support to states and communities as they plan, implement, and evaluate new initiatives. It also creates and supports programs that meet a clear national interest, such as Head Start and Early head Start.

Many of the most exciting initiatives will come from states and communities that can tailor programs to local needs and adjust to changing circumstances. Across the nation, many states are launching or expanding family support efforts, home visitation programs, and a variety health care initiatives designed to safeguard young children. They are setting higher standards for child care

accreditation, and focusing more on enforcement. They are encouraging or requiring professionals from diverse fields to work together. States and localities must keep children at the top of their agendas, confident that their investments will, over time, strengthen the fabric of their communities, while increasing workplace productivity and containing social spending.

[Beef up this section with more information on the Administration's accomplishments]

WHAT RESEARCHERS CAN DO

Decades of research have led to breathtaking discoveries about early child development and learning, but much remains to be known.[27] How can we build on recent findings about how children think and communicate? How can we use insights into young children's relationships with the adults in their lives to strengthen learning? What kinds of stimulation do children need? How much? And when? How does stress affect young children, and how can its impact be blunted? How can the quality of child care be improved? How can different kinds of developmental delays and impairments be overcome? What kinds of education and training can help parents and other caregivers enhance children's development?

We also need to know more about how communities mobilize in order to contribute to children's healthy development. How can families and communities do a better job of supporting young children's learning? And what are the best uses of community resources and social services for early childhood learning and development? Researchers are hard at work, addressing these questions and many more.

V. How Are the Children?

"A civilization flourishes when people plant trees under whose shade they will never sit."[28] This Greek proverb—thousands of years old—poses the challenge that faces us today. Are we willing, as a society, to invest in our children, even if those investments may not pay off fully for a decade or more? Are we willing, moreover, to invest in other people's children?

It has often been said that to gauge a nation's well-being, the first question one should ask is: "How are the children?" Today, we must respond to this question with a mixed report. But if we act now—if we look at the research, if we build on success, if we root out programs and practices that do not work, if we consider the impact on young children before making any new policy or program—we can make a difference. And if we do, imagine the answer today's infants and toddlers will be able to give when they are asked, in coming decades, "How are the children?"

Many things we need can wait. the child cannot.
Now is the time his bones are being formed;
his blood is being made; his mind is being developed.
To him we cannot say tomorrow. his name is today.

Gabriela Mistral

1. This was a finding of a study published in 1993 by a group of scientists led by Dr. Matthew McGue of the University of Minnesota. The study suggested a steady rise in the lifetime role of heredity in cognitive function. It found that the genetic factor in general cognitive ability is about 20 percent in infancy, 40 percent in childhood, 50 percent in adolescence, and 60 percent in adulthood. These findings are consistent with the evidence produced by a more recent study on the role of genes in shaping intelligence sponsored by the National Institutes of Health and led by Dr. Gerald E. McCleam, director of the Center for Developmental and Health Genetics at Pennsylvania State University. See Malcolm W. Browne, "Role of Genes in Shaping Intelligence Is Lifelong, Study Says." *The New York Times*, June 6, 1997, p. A20.

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SIDEBAR 2

PHONING HOME

You might think of a brain cell as something like a telephone—although unlike a phone, it communicates with other brain cells by a combination of chemical and electrical signalling.

Now, like a phone, each brain cell connects with other brain cells—anywhere from one to ten thousand of them. So when you make a connection, one phone may ring, or ten thousand may ring. In all, the brain has to create a network of more than a hundred trillion connections; what's more, the hook-ups have to be very precise so that when you phone home, you reach your house and not a wrong number.

This is a daunting task considering that at the outset, nothing is connected to anything else in the brain. It takes a two-step process.

First, you need trunk lines—the gross wiring. You have to string telephone wires from one city to another, so when you place a call from Kansas City to Washington, DC, you don't reach San Diego. In terms of brain development, this means that the neural connections from the eye have to grow to the visual part of the brain. Connections from the ear have to grow to the auditory part of the brain. And so on.

But the problem of wiring isn't over. Once the trunk lines are in place, you still have to make sure that your call goes to the right address in Washington, DC, so when your grandmother calls you up in Washington, your phone rings and not the phone at the White House.

This is not a trivial problem. Let's take the connections from the eye to the brain. There are about a million connections from each eye, and there are about two million possible destinations that each one of these connections could reach. And yet fewer than 100 connections are selected from this vast number of addresses—and that's just the visual system.

So what is the solution? One possibility is that the brain could be wired like a computer. You could build the machine, program all of the connections, push a button, and pray that the right phone rings in the right city. In other words, the brain could rely on genetic coding for the entire process. But imagine how much coding it would take to program trillions of connections.

Nature's solution is much more adaptive and economical. In the process of development, the gross wiring is pre-programmed primarily by means of genetic coding. And then midway through the process, before all the wiring is complete, it's as if a switch is flipped and the newly functioning brain takes over the wiring process.

In this way, wiring the brain is a two-phase process. In the first phase, an infant's brain sends signals in the right general direction. It reaches the right city; but when it tries to phone home, there is ringing all over town.

But then, in the second phase, the brain takes over. It places trillions of phone calls, using them to correct initial errors in address selection. In a sense, the brain is running test patterns to figure out which are the most efficient connections. The wrong numbers are eliminated, and the right ones are reinforced and proliferate like mad.

So the baby's brain is not just a miniature version of an adult brain. It is a dynamic evolving structure that uses experience to form efficient neural networks.

Adapted from the presentation of Dr. Carla Shatz

SIDEBAR 3

CITIZENS OF THE WORLD

Over the past 25 years, we've learned a tremendous amount about the child's acquisition of language. The new research shows that in the first year of life, infants are mapping the sound structure of language. In fact, by six months of age, they are well on their way to cracking the language code.

It takes both nature and nurture—or, to say it another way, both biology and culture—to bring this about. Newborns are very well prepared to acquire language. At birth, infants across the world can discriminate all of the sound contrasts that are used in any language of the world. I like to refer to them as citizens of the world. They don't know which language they are going to have to acquire, so they are prepared for anything. This is quite a feat because the acoustic events they have to pay attention to are very, very minute.

Over time, infants have to change from citizens of the world to culture-bound language specialists. There is now evidence that by 12 months of age, they are well on their way to mapping the sound structure of their particular language. We know this because we have been doing studies in all over the world, observing babies as they listen to different languages.

In Stockholm and Seattle, for example, we observed that by six months of age, babies are already focusing on the particular language sounds that their language uses contrastively, rather than the sounds of all languages. We have just learned, from studies in Japan, that infants who at six months of age were able to hear the distinction between R and L no longer do so at 12 months. In other words, by the time they reach their first birthdays, babies have begun to ignore the variations that are not essential to their language and to pay attention only to that set of sounds that are critical for distinguishing words in their particular language.

What this research shows is that by six months of age, infants' perceptual systems have been altered simply by listening to us speech.

Now, six-mothers are very little babies. They have yet to produce a single word; the have yet to understand a single word, and yet the lesson from the research is that they are listening to us speak and their brains are busy coding the sound structure of the language they are going to have to master in order to be able to talk back. So the language we produce to infants is vital to them, and that puts a great deal of responsibility on us.

Adapted from the presentation by Dr. Patricia Kuhl

SIDEBAR 4

READING CHILDREN'S SIGNALS

Note: This sidebar will be based on interview with Dr. Brazelton. I've contacted Ethan Howard in his office and am waiting for a response—either an appointment to interview him on the subject, or a published piece that could be used as the basis for this sidebar. (If time runs out, I can write this based on available materials and ask his office to okay it.) RS

SIDEBAR 5

CHILD CARE AND THE FAMILY

Just as research on the inner workings of the brain has ironically directed attention outward to the importance of the environment, research on child care has affirmed the centrality and durability of the family in the development in young children.

Today, the vast majority of families are sharing the rearing of their children with child care providers, starting in the very first few weeks of life. We know from the new national study of infant child care funded by the national Institute of Child health and Human Development that 80 percent of infants in the United States experience some regular non-maternal child care during the first 12 months of life. Most of these babies started child care before their four-month birthday; they are in care typically for close to 30 hours a week. We are talking about a very high "dosage" of early child care for most U.S. babies.

The good news is that, according to research, young children—including babies—can thrive in child care when it is of high enough quality. In fact, by placing your children in high quality child care, you can actually supplement what you are giving them at home. That is why the importance of making high quality child care affordable for more families cannot be undervalued.

Moreover, placing a baby in child care does not interfere with the development of the mother-infant attachment relationship or the father-infant attachment relationship. So long as parents spend enough time with their babies to become confident caregivers and understand their needs, their bonds with their children will be extremely resilient. No matter when families first start child care, no matter how much child care they use, the family remains by far the most powerful influence on their children's development.

The bad news is that most of the settings where American children receive out-of-home care fall short of any standard that could be considered optimal. "Barely adequate" has become the term of art to describe the typical child care arrangement in this country. Virtually every study that has involved actually going inside child care settings and observing what happens has found that about 15 to 20 percent—one out of every five or six programs—are in fact dismal and even dangerous. And those are the settings that will let us in to observe them! Infants seem to get the poorest quality of all. Of course, we also see fabulous child care in all kinds of arrangements, whether it is from grandma or a teacher in a child care setting.

Neuroscience tells us that these suboptimal child care environments should affect early development. Child care research confirms that they do. The quality of the child care environment significantly affects virtually every aspect of development that we know how to measure, whether it is problem-solving skills or social interactions or attention span or verbal development.

The key to raising quality lies with the caregiver. Good caregiving looks a lot like good mothering and good fathering. Children show significantly better cognitive and language skills, as well as social and emotional development, when they are cared for by adults who engage with them in frequent, affectionate, responsive interactions, who are attentive and know how to read a baby's signals and respond to the baby's temperament.

We know how to provide high-quality child care. The unified efforts of the four branches of the military have proven this, as has Head Start. We need to improve adult-to-child ratios; expand training and create career ladders for caregivers; reduce staff turnover by improving pay and benefits; and strengthen parent involvement.

Adapted from the presentation by Dr. Deborah Phillips

SIDEBAR 6

THERE'S NO PLACE LIKE HOME

The story goes that when a notorious thief was asked why he robbed banks, he answered: "Because that's where the money is." When it comes to family support and parent education, home visitation has proven to be one of the most effective approaches because—at least in the first weeks of life—that's where the babies are. Home is also where new mothers and fathers are likely to be most comfortable, and coming to them signals to parents that what they do matters, that the effort they have spent creating a safe, secure home for their family is appreciated.

Except in cases where children are considered to be at risk of abuse or neglect, home visits are generally voluntary. Some parents choose not to open their doors to visitors, but will accept written information and referrals; others may prefer to meet visitors in public places, such as a church, community center, or even a local diner. Flexibility is a key to successful home visitation.

But most parents welcome the information and advice that nurses or other trained home visitors can offer. They are grateful for advice based not on theory or on assumptions about typical families, but on the realities of their day-to-day lives. They look forward to having a professional (or experienced caregiver with special training) give feedback based on how their child responds at home—not in an office or examining room. And parents can also chat and ask questions more comfortably, and accept suggestions more readily, when the conversation takes place on *their* turf.

Home visits can benefit all kinds of families, but have been shown to be especially helpful to mothers who are young, have little income, or are raising a child alone. Research shows that in these cases, regular home visits by nurses during pregnancy and a child's first two years improve children's health status and social adjustment.

Home visitation services may be offered through community-based organizations, preschools, health clinics, or neighborhood family-child centers. The visitors may be nurses, social workers, or parent aides. In many cases, home visits are offered as part of more comprehensive family support and parent education programs. Many well established programs, including Parents as Teachers (PAT), Healthy Families America (HFA), Home Instruction Program for Preschool Youngsters (HIPPY), Avance, and Parent-Child Centers, include home visits. In addition, a number of states, including Vermont and Missouri, have made home visitation a cornerstone of their efforts to improve results for young children and their families.

SIDEBAR 7

ON THE LAND, IN THE AIR, ON THE SEA...AND IN THE SANDBOX

Americans can take pride in the fact that their armed forces are state-of-the-art strategists and—when necessary—superb combatants. But few realize that they are also among the world's finest child care providers. That is why President Clinton has asked the Department of Defense to share its success with civilian child care centers.

Today, about 1.5 million men and women are on active duty in our nation's armed forces. Nearly 40 percent of them have small children who need care while their parents are at work. But affordable, high-
quality is often hard to come by in the places where military families are stationed.
The military responded, over recent decades, by setting up its own child care centers, but these facilities tended to be overcrowded and understaffed. Pay was low, staff turnover was high, and parents' morale plummeted. By 1990, the situation was considered serious enough to undermine military 's readiness.

Since 1990, the Department of Defense has committed substantial resources to expanding and improving its child care services. The goal was to reduce absenteeism, increase commitment, and most importantly, allow men and women in uniform to focus on their jobs, reassured that their children are safe and well cared for.

Worldwide, the military's child care programs now serves more than 150,000 children each day. Every military base offers a range of child care options, including full-day, part-day, and hourly child care services, as well as part-day preschools. The military oversees more than 530 child care centers on bases as well as some 10,000 family child care homes in base housing run primarily by soldiers' spouses. There are also some 300 facilities where school-aged children can receive care before or after school hours.

By investing in its staff and stressing training, the Department of Defense has become not only one of the nation's largest child care providers, but also one of the best. Anyone with a high school diploma can begin work in one of its preschools, but "basic training" is a must. In addition, all staff must take part in at least 24 hours of training annually—more than twice the national average for child care workers. Those who provide care in their homes must also take part in a demanding training program run by specialists in early childhood education and are monitored on a monthly basis. The military pays for the training, which follows a sequential curriculum and leads to certificates and academic degrees. The military has also created a career ladder for caregivers—something that is sorely lacking in most early care and education. As staff become more qualified, they can earn pay hikes and move into more responsible positions.

A key to effective reform was the recognition that children suffer when their caregivers are underpaid. By law, the Department of Defense is now required to provide child care workers wages and benefits equivalent to those for other entry-level jobs on military bases. Higher pay has dramatically reduced staff turnover, so children can form secure attachments to consistent, experienced caregivers. Other reforms have included improved teacher/child ratios, strict enforcement of standards, frequent inspections, and active parental involvement. As a result, 70 percent of the military's child care centers have been accredited by the National Association for the Education of Young Children, compared with 5 percent of centers nationwide.

These improvements have doubled the costs per child, but parents and the government split the bill. Parents' fees are set on a sliding scale based on family income. The Department of Defense's total costs for subsidizing all child care facilities on military bases totalled $269 in 1996.