

FOR ESIGHT

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Investing in Our Children

What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions

Around the beginning of 1997, RAND, a California-based nonprofit research institution, was approached by the "I Am Your Child" Early Childhood Public Engagement Campaign to conduct an independent, objective review of the scientific evidence available on early childhood interventions. "Early childhood interventions" were defined as attempts by government agencies or other organizations to improve child health and development, educational attainment, and economic well-being. The aim was to quantify the benefits of these programs to children, their parents, and society at large. RAND's Criminal Justice Program and Labor and Population Program established an interdisciplinary research team including two economists, a criminologist, two mathematical modelers, and a developmental pediatrician. As the project evolved, it became convenient to separate the benefits being examined into two large categories: benefits to the children and parents participating in the programs, and benefits by way of eventual savings to the government (and therefore society in general) from reduced levels of social-service expenditures on participants following the end of the programs. For ease of reference, the first class is typically called "benefits" in this report and the second class, "savings." Savings are compared with program costs.

By Lynn A. Karoly, Peter W. Greenwood, Susan S. Everingham, Jill Houbé, M. Rebecca Kilburn, C. Peter Rydell, Matthew Sanders, James Chiesa

Over the last year or so, there has been a renewed interest in the influence of early childhood—especially the first 3 years of life—on child health and development, educational attainment, and economic well-being. Public attention has been stimulated by television shows and stories in national news magazines, and governors and legislators have been initiating programs to direct budgetary surpluses to services for young children. Much of this activity has been given impetus by research findings that the great majority of physical brain development occurs by the age of three. These findings have been interpreted to suggest that early childhood furnishes a window of opportunity for enriching input and a window of vulnerability to such social stressors as poverty and dysfunctional home environments. The response has been an attempt to promote healthy child development, particularly among disadvantaged children, with home visits by nurses, parent training, preschool, and other programs.

It is unclear what will happen to these programs once the media spotlight moves on and budgets tighten. Perhaps a public clamor over the next hot issue will draw funds away from early childhood programs; perhaps it should. The current period of relative largesse provides the opportunity not only to initiate programs but to undertake the kind of

rational evaluation of those programs that will help clarify the choices that must eventually be made. In this report, we assemble the evidence now available on early childhood interventions to try to answer two questions that will be of interest to policymakers who must allocate resources and to the public who provides those resources:

•Do early interventions targeted at disadvantaged children benefit participating children and their families?

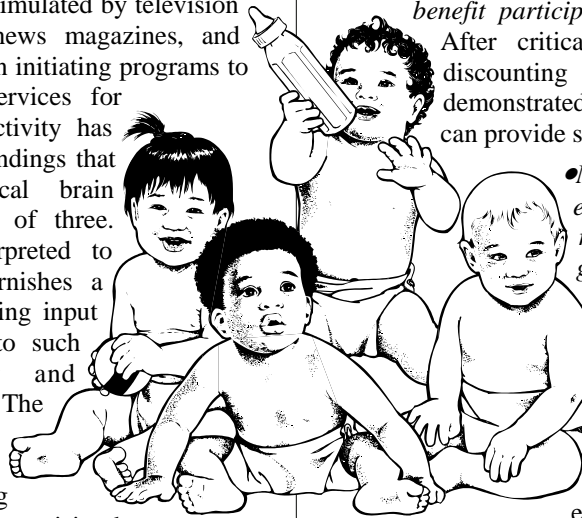
After critically reviewing the literature and discounting claims that are not rigorously demonstrated, we conclude that these programs can provide significant benefits.

•Might government funds invested early in the lives of some children result in compensating decreases in government expenditures? Here, we

examine the possibility that early interventions may save some children (and their parents) from placing burdens on the state in terms of welfare, criminal justice, and other costs. Again, after updating and refining earlier estimates, we find that, at least for

some disadvantaged children and their families, the answer to this question is yes.

We use words like "can" and "might" deliberately. We cannot freely generalize these conclusions to all kinds of



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targeted early interventions, especially not to large-scale programs, because of various limitations in the evidence collected to date. We pay special attention in our analysis to these limitations, which have important implications for future initiatives. In particular, these limitations suggest that better evaluations of new and continuing intervention efforts would be of great value to future decisionmaking.

What Are the Benefits?

The term “early intervention” can be broadly applied. It can be used for services generally available to and needed by many children, such as immunizations and child care, and to programs not specifically aimed at children, such as Food Stamps and Medicaid. In this report, we restrict its application to programs targeted to overcome the cognitive, emotional, and resource limitations that may characterize the environments of disadvantaged children during the first several years of life.

Even the term “targeted early intervention” is a broad concept. It covers programs concerned with low-birthweight babies and those concerned with toddlers in low-income families; interventions targeting children as well as those targeting their mothers; services offered in homes and those offered in centers; programs aimed at improving educational achievement and those aimed at improving health; and services as diverse as parent skills training, child health screening, child-abuse recognition, and social-services referral.

FORESIGHT

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This diversity makes it impossible to draw overall generalizations about “targeted early intervention” and limits us to inferences as to what some programs *can* do, depending on the characteristics of the program and the families it serves. Furthermore, given the shortcomings and limitations in the design of many early intervention evaluations and the measures omitted from them, what we don’t know about the effects of early childhood intervention may exceed what we know (more on this appears below). Nonetheless, our review supports the proposition that, in some situations, carefully targeted early childhood interventions *can* yield measurable benefits in the short run and that some of those benefits persist long after the program has ended.

We reached that conclusion after examining a set of nine programs in which evaluations had been performed that assessed developmental indicators, educational achievement, economic well-being, and health for program participants and compared them with the same measures for matched controls. In most of the programs, controls were selected by random assignment at program outset. We also sought programs with participant and control groups large enough at program implementation and follow-up to ensure unbiased results, although resource limitations on these programs did not always permit that.

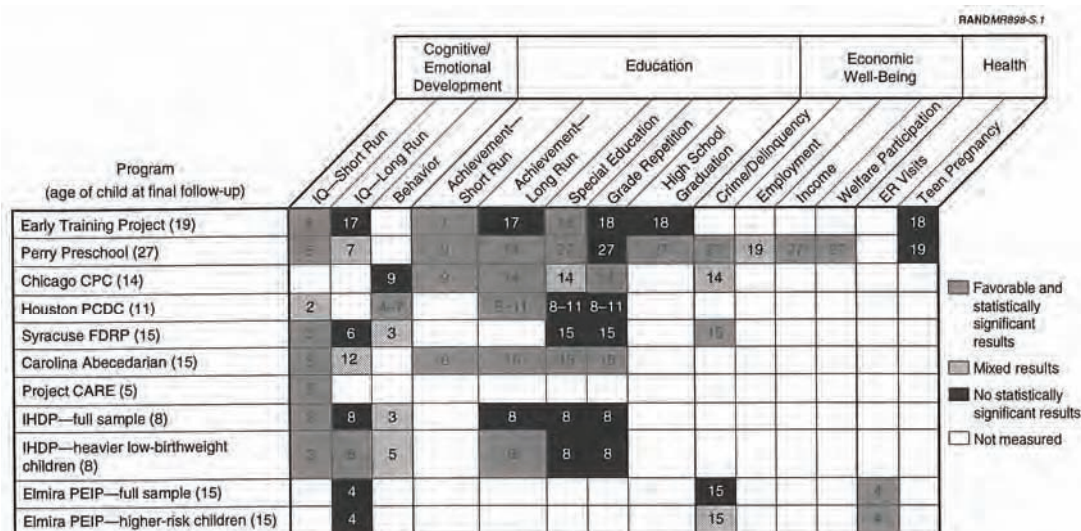
Figure 1 schematically summarizes the results of our review of the effects of these programs on participating children.¹ The filled squares show which of a number of developmental, educational, economic, and health indicators were measured for each program reviewed. The color rose indicates a favorable (and statistically significant) result, and black indicates no statistically significant result; gray denotes mixed findings.² As the figure shows, each program favorably affected at least one indicator, and most of them affected several (that is, participants had better outcomes on these indicators than did children in the control group).³ Although many studies did not find favorable outcomes across the full range of effects they examined (especially in the long run), favorable effects dominate. A companion analysis of program effects on mothers also showed that measured results tended to be favorable, although the ratio of favorable to null results across all programs was not as high.

¹The nine programs are the Early Training Project, Perry Preschool, Chicago Child-Parent Center (CPC), Houston Parent-Child Development Center (PCDC), Syracuse Family Development Research Program (FDRP), Carolina Abecedarian, Project CARE (Carolina Approach to Responsive Education), Infant Health and Development Project (IHDP), and Elmira (New York) Prenatal/Early Infancy Project (PEIP). We also review Project Head Start, but results are not summarized in Figure 1 because there are multiple evaluations that cannot be readily summarized.

²A favorable result may an increase or decrease in an indicator among program participants relative to controls—depending on the indicator. For example, while a favorable result for IQ means that the IQ was *higher* for treatment children compared with controls, a favorable result for criminal behavior occurs when the incidence is *lower* for the treatment group.

³In addition, in most cases even when results were not statistically significant (black in the figure), the difference between treatment and control groups was in the expected direction for the program to produce beneficial results.

FIGURE 1
Effects of Selected Programs on Child Development



NOTE: Number in box refers to age of child when measure was last taken. When results were mixed (gray squares), the age refers to the last age when the effect was significant. See text note for full program names.

The programs thus led variously to the following advantages for program participants relative to those in the control group:

- Gains in emotional or cognitive development for the child, typically in the short run, or improved parent-child relationships.
- Improvements in educational process and outcomes for the child.
- Increased economic self-sufficiency, initially for the parent and later for the child, through greater labor force participation, higher income, and lower welfare usage.
- Reduced levels of criminal activity.
- Improvements in health-related indicators, such as child abuse, maternal reproductive health, and maternal substance abuse.

While many significant differences between participants and controls were found, a statistically significant difference is not necessarily an important one. The size of the difference also needs to be taken into account—and the size of many of the differences could be fairly characterized as substantial. For example, the Early Training Project, Perry Preschool, and the Infant Health and Development Project (IHDP) found IQ differences between treatment participants and controls at the end of program implementation that approached or exceeded 10 points, a large effect by most standards. The difference in rates of special education and grade retention at age 15 in the Abecedarian project participants exceeded 20 percentage points. In the Elmira, New York, Prenatal/Early Infancy Project (PEIP), participating children experienced 33 percent fewer emergency room visits through age 4 than the controls, and their mothers were on welfare 33 percent less of the time. In the Perry Preschool program, children’s earning when they reached age 27 were 60 percent higher among program

participants. Thus, we conclude that there is strong evidence to support the proposition that at least some early interventions can benefit participating children and their mothers.

It is also apparent from Figure 1, however, that for most programs, most indicators are not measured. This is even truer of the maternal analysis, where five of the nine evaluations paid no attention to possible effects on the mother other than parental development. Our analyses thus represent only a partial accounting of program benefits. Furthermore, most evaluations did not involve long-term follow-ups, and some benefits could take a number of years to accrue (some could also erode with the passage of time).

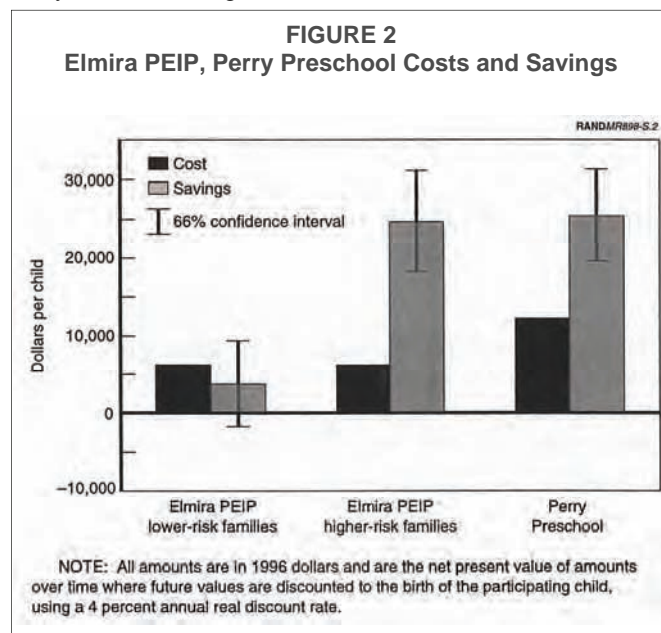
What Are the Savings?

Some people may think that the benefits of targeted early intervention programs for participating families are enough to justify public expenditures on them. Others may appreciate the benefits to disadvantaged children but may be reluctant to raise tax burdens to accomplish such goals or may wish, at least, for broader favorable ramifications from an investment of public funds. One source of broader benefit is the potential savings the government (and thus taxpayers) realize when families participating in early interventions require lower public expenditures later in life. Participating children may spend less time in special-education programs. Parents and, as they become adults, children may spend less time on welfare or under the jurisdiction of the criminal justice system. They may also earn more income and thus pay more taxes.

In Figure 2, we compare program costs with eventual government savings for two of the nine programs—Perry

Preschool and the Elmira PEIP. The Perry Preschool program enrolled 123 disadvantaged African American children in Ypsilanti, Michigan, in the mid-1960s. The program was a part-time preschool that included weekly home visits by the teacher and lasted for one or two school years. For the Elmira PEIP, 400 disadvantaged, primarily nonminority families received home visits by nurses trained in parent education, establishment of support networks for the mother, and linkage of the family to other health and human services. Mothers received an average of 32 visits from the fourth month of pregnancy through the child's second year. We chose these two interventions for three reasons:

- They were random trials that satisfied sample size and attrition criteria.
- They measured progress on developmental, educational, economic, criminal justice, and health measures that could be expressed in monetary terms.
- They followed the children long enough for benefits to accrue. The latest Elmira PEIP follow-up was at age 15 and Perry Preschool at age 27.



For the Elmira PEIP estimates, we followed the approach taken in the evaluation of that project, which was to split the results into two groups. One contained the higher-risk families (those with single mothers *and* low socioeconomic status) and the other the lower-risk families. Costs and savings for the two Elmira PEIP groups and for the Perry Preschool participants are shown in Figure 2.⁴ Costs are known with a fair degree of certainty. The precision of the savings estimates, however, depend on the sample sizes, and the vertical lines indicate the 66 percent confidence band (that is, there is a 66 percent probability that the true benefit level falls along the vertical line). A vertical line of twice the length shown would indicate a 95 percent confidence band.

For the Perry Preschool and the higher-risk families of the Elmira PEIP, our best estimates of the savings to

government are much higher than the costs (about \$25,000 versus \$12,000 for each participating Perry family; \$24,000 versus \$6,000 for Elmira). Although there is considerable uncertainty with respect to the benefit estimates, from a statistical point of view we can be more than 95 percent certain that the benefits exceed the costs.⁵ It is worth pointing out, however, that while benefits exceed costs, the costs accrue immediately, while the benefits are realized only as the years pass and children transition through adolescence to adulthood.

In the case of the lower-risk participants of the Elmira PEIP, the savings to government are unlikely to exceed the costs. In fact, our best estimate of the net savings is that they are negative: The government savings, while positive, are not enough to offset program costs. This result illustrates the importance of targeting programs to those who will benefit most if the hope is to realize government savings that exceed costs.

We emphasize, however, that while we included the full costs of the programs, we could not account for all benefits. The Elmira PEIP, which has followed participating children only to age 15 so far, provides no basis for calculating the amount these children may save the government in welfare costs, or the extra taxes they may pay as adults. We might expect such savings even for the lower-risk participants, although the longer-run savings may be less than those generated by children in the higher-risk families. The Perry savings may also be underestimated because benefits to mothers were not measured.

Furthermore, the programs generate additional benefits to society beyond the government. These include the tangible costs of the crimes that would eventually have been committed by participating children, had they not participated in the program. The benefits also include the extra income generated by participating families (not just the taxes on that income), which can be reckoned as a benefit to the overall economy. We estimated these two benefit sources combined as roughly \$3,000 per family in the case of the lower-risk Elmira participants, about \$6,000 per family for the higher-risk Elmira participants, and over \$24,000 per family in the Perry case.

While the net savings and other benefits from these programs appear promising, caution must be exercised for various reasons in drawing generalizations for public policy. We explain most of these reasons below, but two relate specifically to the cost-savings approach. First, because these are the only two programs whose evaluation characteristics permit estimates of long-term savings with any accuracy, we cannot say that different programs would also generate such savings (by the same token, we cannot say that they wouldn't). Second, because there was some variation

⁴Dollars shown have been converted to present value—i.e., future costs and savings have been discounted (at 4 percent per year) to recognize the standard assumption in economics that, even apart from inflation, people attach less value to future dollars than to current ones. "Present" here is the year of the child's birth. All amounts are in 1996 dollars.

⁵There are however, other uncertainties that are not related to sample size and that cannot be measured with statistical methods.

between the two programs in the indicators of success measured, we cannot conclude from the different net savings numbers that one program is better than the other.

One final caveat: Cost-savings analysis is a useful tool because, when the results are positive, it provides strong support for program worth. That is, it shows that only a portion of the benefits—those easily monetizable—outweigh the program’s entire cost.⁶ However, because only some of the benefits are taken into account, a negative result does not indicate that a program *shouldn’t* be funded. Policymakers must then decide whether the nonmonetizable benefits—e.g., gains in IQ, in parent-child relations, in high-school diplomas—are worth the net monetary cost to the government.

One source of broader benefit is the potential savings the government (and thus taxpayers) realize when families participating in early interventions require lower public expenditures later in life.

•*What the full range of benefits is.* Typically, evaluations have focused on those aspects of development that the intervention was intended to influence. But we know from some studies that programs can have a broad array of effects beyond their principal objectives.

•*What the implications of the changing social safety net are.*

Previous demonstrations were carried out under the now-superseded welfare system. To some extent, those interventions depended on that system for collateral support of families, and the savings generated were partly in terms of welfare costs that the government may not now be paying out anyway.

These unknowns will have to be resolved if wise decisions are to be made among early intervention alternatives and if the programs chosen are to be designed to fully realize their potential for promoting child development—and saving money. In particular, research is needed into *why* programs work. Otherwise, inferences cannot be drawn about new program designs, and every such design would be unproven until tested and evaluated.

The scope of further research should depend on the specific information sought or the scale of the program. *New demonstrations are needed* to answer questions that require variations in program design or that reflect the evolving society and economy, and broader testing of previous designs is required to answer questions of scale-up. However, on questions of targeting, benefits beyond objectives, and other issues, much could also be gained—and less expensively—by *making the most of evaluations already under way*—e.g., by further follow-ups and expansion of the set of benefits measured. Finally, where governments see fit to initiate large-scale public programs on the basis of current knowledge, *careful evaluation should be a component*. Then, when budgets tighten again and choices need to be made, the worth (or lack of worth) of these programs will be more firmly established.

The research required represents a substantial commitment of funds—most likely in the millions or even the tens of millions of dollars. However, the early intervention programs that may prove warranted (and that some people are already advocating) will represent a national investment in the hundreds of millions or billions of dollars. A modest if substantial expenditure initiated now could thus ensure that maximum benefits are achieved from a much larger expenditure over the long term. ✍

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What Remains Unknown and What Does It Mean for Policy?

On the basis of research conducted to date, we know that some targeted early intervention programs have substantial favorable effects on child health and development, educational achievement, and economic well-being. We also know that some of these programs, if targeted to families who will benefit most, have generated savings to the government that exceed the costs of the programs. There is still much that we do not know about these programs, however, and this limits the degree to which these conclusions can be generalized to other early intervention programs. One of the big unknowns is why successful programs work—and others don’t. In particular, we do not know the following:

•*Whether there are optimal program designs.* There have not been enough controlled comparisons that can support choices between focusing on parents versus children (or both), intervening in infancy versus the preschool years, integrating interventions versus running them independently, or tailoring to individual needs versus treating children the same but treating a greater number.

•*How early interventions can best be targeted to those who would benefit most.* It is not yet known which eligibility criteria would generate the most positive benefit/cost ratios. In addition, whatever criteria are used will have dramatic implications for program cost and implementation.

There are other unknowns:

•*Whether the model programs evaluated to date will generate the same benefits and savings when implemented on a large scale.* The demonstrations have been undertaken in a more resource-intensive, focused environment with more highly trained staff than is likely to be achievable in full-scale programs.

⁶A decision as to whether to fund a program must, of course, also take into account budgetary constraints and other uses for the money.

An Interview with the Director of the Office of Early Childhood Development

Editor's Note: Here we present the results of an interview conducted by Michael T. Childress, Executive Director of the Kentucky Long-Term Policy Research Center, of Dr. Kim Townley, Executive Director of the Governor's Office of Early Childhood Development. Mr. Childress' questions appear in bold print followed by Dr. Townley's answers. Later this year, the Kentucky Long-Term Policy Research Center will issue a report on options for the improvement of child care and child outcomes.

Q: When was the Office of Early Childhood Development created and what is its principal purpose?

A: Governor Patton announced that he would be creating this office in April of 1998. He filled the position in November of 1998 and I came on board full-time in January of 1999. It's a relatively new office and its purpose is to advise Governor Patton and legislators in policy related to early childhood development. Our first big project is working with a task force and six topical work groups to develop a 20-year plan for Governor Patton that addresses all the issues related to early childhood development.

Q: What are the six work groups of the task force?

A: The six work groups break into chronological order. Research tells us that 90 percent of the infrastructure of a child's brain is developed by the age of three. So we're looking at the environments in which children live and what we can do to help parents and communities support those environments.

The first environment children spend a lot of time in is the family environment, and we're calling that "Supporting Families." It's broken down into two work groups. The first work group is "Prenatal," looking at what conditions must exist so that when children are born they have good birth weights, they're not addicted to any drugs, and they've had good prenatal care so they're ready to hit the ground running. The second work group that's part of "Supporting Families" is looking at the in-home environment and the parent-child relationship. How do we support families so they can provide the best environments for children in their own homes? In our society today we see a variety of family units: they can be single-parent homes; they can be dual-career family homes; they can be foster

Dr. Townley has been involved in the field of early childhood development and education for almost three decades, beginning as a kindergarten teacher. Throughout her career, Dr. Townley's research has encompassed the broad domain of environmental influences on the development of young children. She has investigated teacher burnout, has been part of a research team conducting a longitudinal study of the Kentucky Preschool Programs, and has conducted research related to children's perception of peace and how early childhood programs might implement peace education.



Dr. Kim Townley

homes. There's a greater incidence of grandparents raising children these days too, so that might be the environment in which young children live. Different families need different levels of support at different times.

While children spend a good deal of time at home, children of parents who work outside the home spend much time in child care. These work groups are looking at the environments that children spend time in outside of the home—and they spend large amounts of time in those environments. The Early Care and Education workgroups are addressing 0-5 issues and school-age issues. The Children's Defense Fund says that a child will enter the child-care setting at six weeks, stay within that setting until going to public school, and spend more time in child care than in the public school system, K through 12. So we need to look at those environments and make sure they are nurturing, stimulating, and encouraging the best possible growth for children.

The last two work groups are related to this whole environmental issue but they're not as directly tied to the child. We have a work group that's looking at public awareness and how to get the information out to legislators and the public. We want to let them know how they can participate in this initiative and that we're trying to support them as they raise their children in a healthy, productive manner. The last work group is "Professional Development" and this work group is looking at how to provide a seamless system of pre-service and in-service education for people who are working with young children in out-of-home environments. We have our most valuable resource in very young children and we oftentimes have the most unskilled, untrained people working with those children for large amounts of time. What do we need to do in order to pull current systems together and make them seamless and comprehensive so children are in environments where the best trained teachers work with them?

Those are the six work groups, and that's pretty much how the task force will attack their 20-year plan: to be looking at the chronological age of the child and what needs to be available at those times; then at the environments in which the child spends time; and then at the support to those environments.

Q: *You mentioned a 20-year plan, what will these work groups be doing?*

A: The Governor's task force started March 19th and it will end April of 2000. It has a very specific charge from the Governor to develop this plan and then to help move it through the legislative process in the next session of the General Assembly. The task force, the work groups, and 10 community forums across the state will answer the same three questions: (1) What is the state of the art in Kentucky right now? Where are we, so to speak? (2) What is, as the governor called it, the "Cadillac" model? Where do we want to be in 20 years? What are the outcomes we want to see? (3) How do we get from where we are to where we want to be in the next 20 years? What are going to be the priorities? That's what they'll all be answering.

The Governor requested a 20-year plan because he understands that quality early childhood programs cost; consequently this plan will need to be phased in. It will be phased in across 20 years, with not only federal and state funding but also additional funding from foundations, businesses, industry, civic organizations, and the state community—those kinds of things broadening the base.

In the community forums, we'll be asking these questions: What's working well in your community? Where are the gaps? How do we fill those gaps? Where are we now? Where do we want to be? And how do you suggest we do that? All of the information from the ten forums will be fed into the work groups and the task force. In July the six work groups will be making their recommendations to the task force and in August the task force will craft the plan.

Q: *The task force is going to "sunset" in April of 2000, but what is going to happen to the Office of Early Childhood Development?*

A: I anticipate one recommendation that we will see from the task force is to establish this office in legislation. I expect the Office of Early Childhood Development will continue to provide policy information to the governor and to the legislature on early childhood issues, and implement some of the recommendations from the task force.

Q: *We're covering a lot of territory—looking at prenatal all the way to school age. Could you tell us what some of the state-of-the-art programs are? Part of your effort, as you indicated, is to identify those exemplary programs. Could you elaborate on one or two noteworthy programs?*

A: We're not the first state to look at the early childhood initiative and in many ways that's a benefit because other states have gone before us and have developed programs. One initiative in northern Kentucky is called "Healthy Families." It comes out of Hawaii and it's been very successful. It is a prevention program and there is considerable data that shows it does benefit children and their families. There is also a state-funded program out of Kentucky's Cabinet for Health Services called HANDS; it's a home-visiting program for first-time mothers who are at risk.

A program that Missouri developed years ago is called "Parents As Teachers." Several of the Family Resource and Youth Service Centers have implemented the program. It looks at the parent-child relationship and how to support parents and help them provide a stimulating environment for their children.

We are exploring several models in North Carolina that are intriguing. One of them is called "TEACH," which looks at the whole area of professional development. The turnover nationally in child care is about 40 to 45 percent. That's not good when we want good, healthy environments, one factor of which is a stable caregiver. So in North Carolina, they have used the TEACH model to reduce turnover, and they've done that in a couple of different ways. Number one is actually pay teachers bonuses when they complete educational programs. It also addresses the issue of tuition cost and low salary.

In this state, there are some programs that are actually paying college tuition at the community colleges for child-care providers to go back to school. We're doing that on a very limited basis and that's something I think we might see more of.

Smart Start is also an initiative that provides improved educational environments for young children in North Carolina. Georgia has a good statewide four-year-olds program that is different from ours. Specifically, theirs is universal. They serve all four-year-olds, they fund it with their lottery money, and it's unique in that it isn't all administered through the public schools. There are many private child-care centers—some of them are for-profit, some of them are nonprofit—providing services, so there's a real collaboration and a partnership between the state government and programs that are already serving four-year-olds.

Ohio has many interesting initiatives. They have chosen to put large amounts of state dollars into Head Start to serve more children. Colorado also has interesting initiatives in the whole area. There are various models and we'll be looking at those to see how we can fit them to meet Kentucky's needs.

Q: *In order to develop this "Cadillac" plan—as Governor Patton has referred to it—over a 20-year period in Kentucky, do you think it's going to require a substantial investment of state money?*

A: When you look at a comprehensive program like this—and you're looking at supporting families when the children are in their homes as well as when they're out of the homes while the families are working—good, quality child care is not cheap: it's expensive. And that burden can't be borne by the state exclusively or by the federal government, and that's why we're interested in encouraging the business sector and local communities to become more involved than they already are. Private foundations can support these efforts—other states have examples of how that has worked. In business there is a continuum of participation: not every business has to build an on-site child-care center in order to be involved. They might do something as simple as flex-

time, or allowing their employees to use their sick leave when their children are sick.

Kroger has just donated \$25,000 to the Child Care Fund, which helps support working poor families who are above the eligibility guidelines but still need help with their child care. The state currently provides a child care subsidy to families up to 160 percent poverty, and this Child Care Fund will allow the working poor to have some assistance for their child care. On average, it costs a family more to pay for a child to go to child care for a year than it does for a child to go to any state-supported institute of higher education.

The national statistics say that 80 to 90 percent of child care in this country is poor to mediocre and if we're paying a lot of money for poor-to-mediocre care, it only stands to reason that good care is going to cost more. We need to pull different partners in so the cost is shared.

Q: *What gives rise to all this? One gets the sense that there is a movement across this country focusing on kids age zero to four. What do you think the catalyst or the impetus for that has been?*

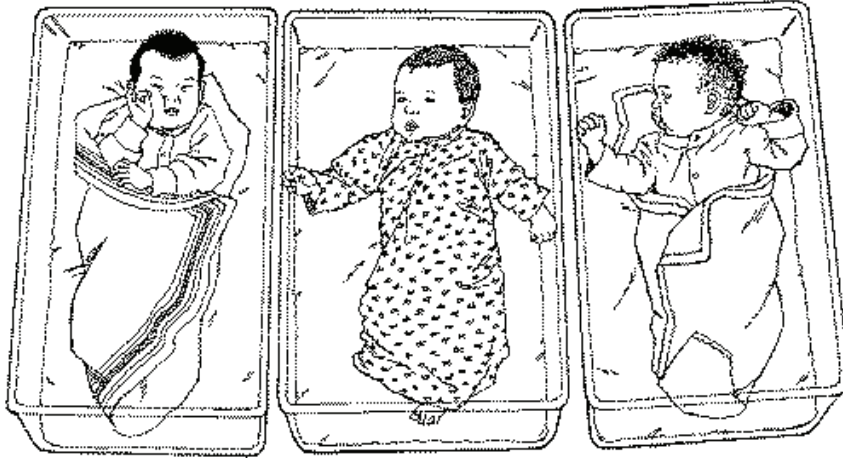
A: Since Piaget and Montessori started doing their observational research, I think that we have known that children grow by leaps and bounds in those first few years. We have observational data to show us what babies can do at six months and what they can do at nine months. What technology has given us in the last five to eight years is the ability to see inside the brain. PET scans can actually show where brain development is taking place. I heard a neurobiologist say—and I think this is really helpful—that when you're born you have a 100 billion neurons in your brain: that's as many trees as there are on this whole planet. Those neurons have the ability to make 18,000 synapses—or connections—to other neurons during brain development: that's as many leaves as there are on all the trees on the whole planet. The brain grows rapidly the first three years, but it will only grow if the environment is responsive, stimulating, and encouraging: if it isn't, those synapses just don't develop. We have PET scans of children who spent most of their young years in Romania, who have been adopted and have come to this country, and you can just see "black holes" in their brains where the connections were not made. That can be remediated, but it's just like an adult who has a stroke: it can take twice as long, it's more costly, and it's never as good as if you'd done it right in the first place.

I think the technology has really spoken to many of the

governors in these states, and it suggests prevention as opposed to remediation. Instead of spending more and more money to build prisons, which is a kind of remediation—it's

after-the-fact—why don't we invest that money early on so we don't have to have as many prisons or as much remedial education? You can even make the point that if we make those first three or four years very valuable, then there might not be the need for expanded four-year-olds programs. The environments of young children are

critical. If you look at it in dollars and cents, studies show that for every dollar you invest, you save \$7 to \$10 later on. So if you have to look at it from a strictly economic point of view, it makes sense to invest the dollars early instead of spending them later. ✍



FORESIGHT Submissions Policies

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UNRAVELING THE HEALTH CARE DILEMMA

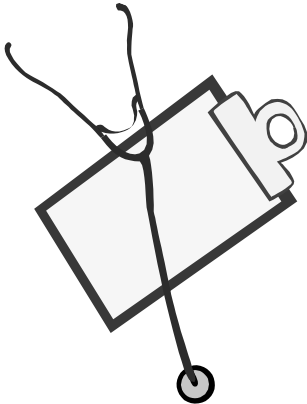
The 6th Annual Conference of
THE KENTUCKY LONG-TERM POLICY RESEARCH CENTER

jointly sponsored by
THE UNIVERSITY OF KENTUCKY CENTER FOR HEALTH SERVICES MANAGEMENT & RESEARCH
THE KENTUCKY CABINET FOR HEALTH SERVICES

THE WESTERN KENTUCKY UNIVERSITY DEPARTMENT OF PUBLIC HEALTH

Thursday, November 18, 1999, Bowling Green, Kentucky

University Plaza Hotel & Convention Center



FEATURED SPEAKERS:

Keynote Speaker: *Congresswoman Louise Slaughter (NY)*
A Kentucky native and a nationally recognized leader in the field of health care
Gov. Paul F. Patton (invited)
Speaker of the House Jody Richards

PLENARY SESSIONS:

Who Are the Uninsured and Why Does It Matter?
Dr. Linda Blumberg, The Urban Institute, "The National Perspective" and Dr. Joyce Beaulieu,
University of Kentucky Center for Health Services Management and Research, "Kentucky's Uninsured"

Innovative Responses to the Problem of the Uninsured

Featuring Harvard/Ford Foundation Innovations in American Government Award Winners (Pat Bean, Hillsborough County Health Care Plan, 1995 winner; Dr. Kathy Weaver, Oregon Health Plan, 1996 winner; and Dr. Suzanne Landis, BCMS Project Access, 1998 winner)

PANEL DISCUSSIONS:

Mending the Safety Net
New Modes of Inclusion
Implications of An Aging Population

UNRAVELING THE HEALTH CARE DILEMMA

November 18, 1999 University Plaza Hotel and Convention Center Bowling Green, Kentucky

To register just complete this form and mail or fax it to the Center along with or followed by your payment for the registration fee or appropriate interaccounting forms. Checks must be made payable to the Kentucky Long-Term Policy Research Center.

State employees must initiate interaccount payment for conference registration *in advance* by forwarding the appropriate forms to the Center. Registration will not be complete until interaccounting arrangements are made.

Individuals with special needs will be accommodated upon request. To permit time for the necessary arrangements, please contact the Center by November 1, 1999.

Cancellations must be made by no later than **Friday, November 5, 1999**, in order to receive a refund.

Completed registrations received by November 10 will be confirmed in writing.

Accommodations are available at the University Plaza Hotel (270-745-0088) at a conference room rate of \$79. Reservations must be made no later than **October 18, 1999**, to guarantee the discounted rate.

Conference Fees: \$10 (*Students*)
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Scanning Kentucky

Emerging trends and issues that may affect the Commonwealth's future

Confronting the Limits of Public Resources

Faltering Medicare Funding

Without changes, Medicare, the nation's \$207 billion-a-year, chronically ailing system for providing health care to seniors, is projected to go broke in 2008, reports *Business Week*. The shortfall will come decades before Social Security could exhaust its trust fund and before 77 million Baby Boomers start collecting Medicare benefits. A potentially fatal combination of rising health care costs and inescapable demographics is predicted to cause Medicare costs to rise from 12 percent of the budget today to more than 27 percent in 2030.

While the White House and Congress are taking the first steps toward discussing the problem, the most obvious fixes—raising taxes, limiting coverage, or making wealthier participants pay more—are considered politically risky. Though congressional policymakers may not be ready to make hard choices, time is of the essence.

Potential Implications for Kentucky.

In spite of gaps in its coverage, namely long-term care and prescription drugs, Medicare provides a critical health care safety net for older Americans. It is particularly important to disproportionately poor Kentuckians and to older women who live longer and are more likely to be solely dependent upon Medicare coverage than men.

In the face of rising health care costs, limited public resources, and the aging of our population, hard choices about the scope of entitlements must be made if we are to preserve this key safety net. And looming budget shortfalls mean the more quickly we develop prescriptions for funding, the more likely they will provide a long-term cure for Medicare's budget maladies.

The Burden of Big Prison Populations

A Bureau of Justice study places the 1998 prison inmate population at its highest level in history, according to *The New York Times*, a circumstance that many critics argue is taking on a life of its own. The "prison industrial complex," they argue, is making too big a claim on society's resources.

A recent *Atlantic Monthly* article charts the historic course of the gradual politicization of the issue of crime in an era of low crime rates, the rewards it has yielded for the growing private prison industry, and the political and financial power the industry enjoys in spite of numerous examples of mismanagement. A recent "60 Minutes" segment detailed an example of the minimal public accountability and poor management found at one privately run prison.

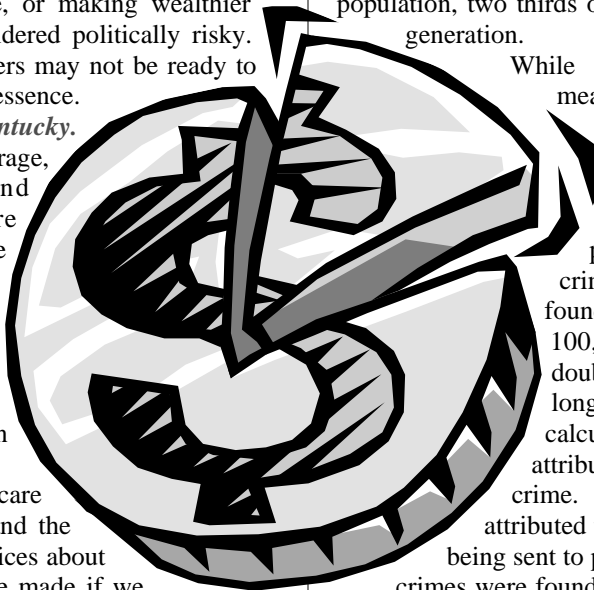
Get-tough attitudes about crime have also affected rehabilitation efforts. But, ultimately, many of the thousands of mostly men who have been incarcerated for many years will be unleashed on society. Without attempts at rehabilitation, recidivism may increase. Evidence suggests it already has. Another recent *New York Times* feature article discusses the possible future impact of the growing inmate population, two thirds of whom have children, on the next generation.

While acknowledging the difficulty of measuring the impact of imprisonment

on the crime rate, some criminologists and law enforcement officials argue that the substantial growth in prison populations has helped reduce crime.

The Bureau of Justice study found that the incarceration rate per 100,000 population has more than doubled since 1985, largely because of longer sentences. The study's authors calculate that 60 percent of the growth is attributable to tougher attitudes about crime. The remaining 40 percent was attributed to increases in the number of people being sent to prison as a result of a crime. Violent crimes were found to be responsible for 43 percent of the growth in prison populations while drug crimes accounted for 29 percent of the growth. Though others argue that rising imprisonment rates do not square with low crime rates, the Bureau of Justice study notes that drug crimes are not calculated in federal crime statistics.

Potential Implications for Kentucky. As the Commonwealth prepares to expand its prison capacity, it is critical that we learn if current sentencing policies and structures are having a measurable deterrent effect on crime. If our response to crime is emotional, rather than objective, we may be creating costly, long-term problems we can ill afford in an era of labor shortages, declining male labor force participation, an aging population, and expanding child



poverty.

Paying for a Higher Educational Status

The buoyant national economy has hidden some underlying problems in Kentucky that threaten its future well-being and place enormous pressure on its colleges and universities, according to a recent Associated Press article. Kentucky as a state is woefully undereducated. It has among the lowest literacy rates in the nation, the lowest high school graduation rates, lowest college attendance rates, and lowest college graduation rates. And, perhaps most importantly, the skills of its workforce are no longer in much demand in today's economy.

In response, the Governor and the General Assembly have set some important goals for the future, including making the University of Kentucky a top 20 research institution and closing the educational gap that lies at the root of the state's disproportionate poverty.

But paying the cost of meeting these goals is another challenge indeed. The relative health of the national economy has permitted the Commonwealth to finance research incentives and basic funding increases for higher education, but, if Kentucky is to close its education gap, it will be necessary to raise postsecondary education levels substantially, and that will come at significant cost.

RAND Corporation estimates show that Kentucky will need to have 195,000 students enrolled in postsecondary education by the year 2014, compared to 136,500 today, and as many as another 20,000 enrolled during each of the following six years to close in on the national average for college graduation rates. Now, the Council on Postsecondary Education and public universities are wrestling with practical approaches to paying for that expansion while trying to achieve another daunting goal—reaching national prominence for the quality of higher education research in Kentucky.

Potential Implications for Kentucky. Instilling widespread understanding of the state's new mantra, "Education Pays," and facilitating broader participation in a range of postsecondary options are goals that are central to the state's future economic and social well-being. Removing obstacles that continue to discourage the poor from pursuing postsecondary education also must rank high on our list of priorities. Ultimately, however, the realization of any long-term educational goal will depend upon our ability to pay for the educational pursuits we envision. Institutional excellence, expanded enrollment and vehicles to facilitate access will require substantial long-term investment that Kentucky's higher education institutions and the Council on Postsecondary Education are wisely considering now, rather than later.

The Persistently "Gray" Federal Budget

President Clinton has proposed a 2000 budget that includes a proposal to fix Social Security, reported a recent *Business Week* article. Even so, the President's millennium fiscal plan still suffers from a critical flaw: rather than restraining the growth of federal programs for soon-to-be retired Baby Boomers, it merely devises ways to fund them. So the federal spending plan remains a "gray" budget as an increasing share of federal money is shifted to the nation's older citizens. That crowds out other options like cutting taxes or investing more in America's children.

"Gray" funding items already consume significant portions of the budget. Nearly one third of all federal spending is earmarked for the elderly through Social Security, Medicare, and Medicaid. If measures aren't enacted now to curb the growth of these programs, four of every five dollars the federal government collects will go to such programs when Baby Boomers retire.

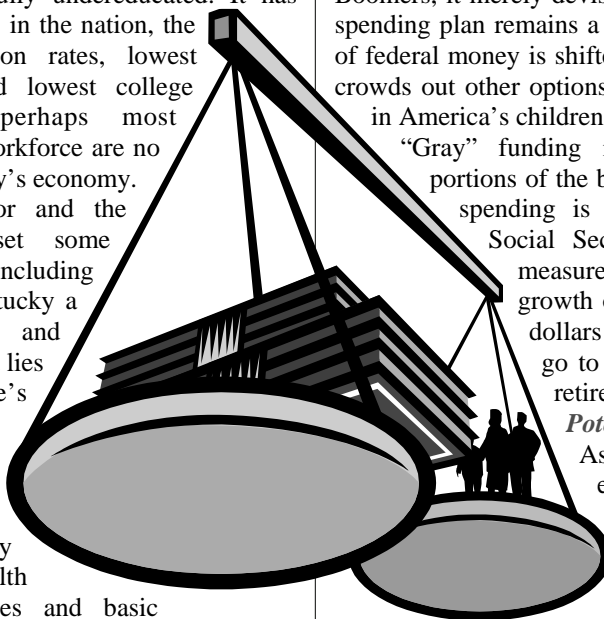
Potential Implications for Kentucky.

As entitlements to the elderly consume expanding portions of the federal budget, state and local governments may find they have to shoulder more of the responsibility for citizen needs and services. Thus, our reservoir of social capital or community capacity in the Commonwealth may become critically important to the future well-being of our state.

Public Health at Risk

Most people know public health as immunizations for school children or health checkups for children and pregnant women. But, the *Lexington Herald-Leader* reports, changes in the way Medicaid funds are distributed are leaving some health departments with fewer dollars to defray the cost of care for the uninsured. The rise of Medicaid managed care, which encourages recipients to seek primary care from a designated physician and the impending demise of the cost-shifting practices that have characterized public health care spending for many years have combined to produce budget shortfalls among Medicaid-dependent health departments. The changes come on top of rising health care costs and declining Medicaid rolls, which had already left some health departments strapped for cash. For many, the only way to weather the crisis has been to cut services, raise fees, lay off staff, or leave positions unfilled.

Potential Implications for Kentucky. The current economic woes of some state health departments stem from policies that effectively made many health departments Medicaid dependent. Restoring the true role of health departments—public health—is essential. Otherwise, we risk losing our entire public health infrastructure on the altar of Medicaid reform.



Selected Publications and Other Products from THE KENTUCKY LONG-TERM POLICY RESEARCH CENTER

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- 📖 **Measures and Milestones, The Conference Proceedings** (1998). Gavel-to-gavel proceedings from the Center's 1997 conference on community building.
- 📖 **Measures and Milestones 1998**. Part of the Visioning Kentucky's Future project, a progress report on 26 long-term goals for the future. Includes results of a statewide citizen survey.
- 📖 **The Circuits Come to Town** (1997). A report on technology use and public readiness for online government services.
- 📖 **The Kentucky State Budget Game** (1997). An interactive learning tool, this computer game puts players, students and interested citizens alike, in the seat of power. They make tough policy choices, balance the budget, and watch public support rise

and fall. Can be downloaded from the Center's website or ordered on diskette.

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Center publications are free. Contact information is on page 2.

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