MATERNAL, INFANT, AND EARLY CHILDHOOD HOME VISITING (MIECHV) PROGRAM

HEARING

BEFORE THE

SUBCOMMITTEE ON HUMAN RESOURCES

OF THE

COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

SECOND SESSION

APRIL 2, 2014

Serial 113–HR11

Printed for the use of the Committee on Ways and Means

U.S. GOVERNMENT PUBLISHING OFFICE

94–400 WASHINGTON : 2016

For sale by the Superintendent of Documents, U.S. Government Publishing Office
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MATERNAL, INFANT, AND EARLY CHILDHOOD HOME VISITING (MIECHV) PROGRAM

WEDNESDAY, APRIL 2, 2014

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON WAYS AND MEANS,
SUBCOMMITTEE ON HUMAN RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:10 p.m. in Room 1100 Longworth House Office Building, the Honorable Dave Reichert [chairman of the subcommittee] presiding.

[The advisory of the hearing follows:]

HEARING ADVISORY

FROM THE COMMITTEE ON WAYS AND MEANS

Chairman Reichert Announces Hearing on the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program

1100 Longworth House Office Building at 2:00 PM
Washington, Mar 26, 2014

Congressman Dave Reichert (R–WA), Chairman of the Subcommittee on Human Resources of the Committee on Ways and Means, today announced that the Subcommittee will hold a hearing on the Federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program. **The hearing will take place at 2:00 p.m. on Wednesday, April 2, 2014, in room 1100 of the Longworth House Office Building.**

In view of the limited time available to hear from witnesses, oral testimony at this hearing will be from invited witnesses only. Witnesses will include practitioners involved in providing home visiting services, a former recipient of these services, and experts on the effectiveness of home visiting programs. However, any individual or organization not scheduled for an oral appearance may submit a written statement for consideration by the Committee and for inclusion in the printed record of the hearing.

In announcing the hearing, Chairman Reichert stated, **"We all know it's better to prevent a problem than to try and correct it after things have gone wrong. Yet in many cases, the Federal Government does just that by only attempting to treat problems instead of focusing on prevention. One of the goals of the new federal home visiting program is to help families and children before problems arise. With the reauthorization of that program pending, it's time to review whether it is really making that hoped-for difference. I look forward to hearing more about how home visiting programs are working, how we can ensure we're investing in what really works, and whether we're getting the quality results that at-risk children and families deserve and taxpayers expect."**

BACKGROUND:

Home visiting programs have operated for many years, delivering services to expectant and new mothers designed to improve a variety of outcomes and using a mix of public and private resources. One of the most successful approaches has involved a trained nurse who visits a parent and child in their home on a frequent basis to provide ongoing services to the family. However, many different types of home visiting programs exist, and these programs may focus on improving child development, increasing parenting skills, reducing the likelihood of child abuse or neglect, or increasing economic wellbeing.

Begun in 2010, the Federal Maternal, Infant, and Early Childhood Home Visiting program (MIECHV) was designed to strengthen existing maternal and child health programs, provide services to improve outcomes for families in at-risk communities, and better coordinate services in communities. Under the MIECHV program, at-risk communities are identified through statewide assessments examining areas with concentrations of poor child health outcomes and other difficulties such as high poverty, crime, or unemployment. States then specify how they will serve these communities using an evidence-based home visiting model, and funding is provided based on each state's proportion of preschool children in families with income below the poverty level. While the bulk of program funding must be used to provide services through home visiting models with evidence of effectiveness as determined by the Department of Health and Human Services (HHS), up to 25 percent of total funding can be used to fund promising, but still unproven, approaches. Funding for the MIECHV program in FY 2014 is $400 million. The program's current authorization

expires at the end of FY 2014. The Administration's FY 2015 budget calls for the program's reauthorization as well as a total of $15 billion in funding over the next 10 years.

FOCUS OF THE HEARING:

This hearing will focus on the MIECHV program, including what is known about whether services funded by the program have improved outcomes for young children and their parents and how Congress can determine whether spending on such services can produce the best results for at-risk families.

DETAILS FOR SUBMISSION OF WRITTEN COMMENTS:

Please Note: Any person(s) and/or organization(s) wishing to submit for the hearing record must follow the appropriate link on the hearing page of the Committee website and complete the informational forms. From the Committee homepage, http://*waysandmeans.house.gov*/, select "Hearings." Select the hearing for which you would like to submit, and click on the link entitled, "Please click here to submit a statement or letter for the record." Once you have followed the online instructions, submit all requested information. Attach your submission as a Word document, in compliance with the formatting requirements listed below, **by April 16, 2014.** Finally, please note that due to the change in House mail policy, the U.S. Capitol Police will refuse sealed-package deliveries to all House Office Buildings. For questions, or if you encounter technical problems, please call (202) 225–1721 or (202) 225–3625.

FORMATTING REQUIREMENTS:

The Committee relies on electronic submissions for printing the official hearing record. As always, submissions will be included in the record according to the discretion of the Committee. The Committee will not alter the content of your submission, but we reserve the right to format it according to our guidelines. Any submission provided to the Committee by a witness, any supplementary materials submitted for the printed record, and any written comments in response to a request for written comments must conform to the guidelines listed below. Any submission or supplementary item not in compliance with these guidelines will not be printed, but will be maintained in the Committee files for review and use by the Committee.

1. All submissions and supplementary materials must be provided in Word format and MUST NOT exceed a total of 10 pages, including attachments. Witnesses and submitters are advised that the Committee relies on electronic submissions for printing the official hearing record.

2. Copies of whole documents submitted as exhibit material will not be accepted for printing. Instead, exhibit material should be referenced and quoted or paraphrased. All exhibit material not meeting these specifications will be maintained in the Committee files for review and use by the Committee.

3. All submissions must include a list of all clients, persons, and/or organizations on whose behalf the witness appears. A supplemental sheet must accompany each submission listing the name, company, address, telephone, and fax numbers of each witness.

The Committee seeks to make its facilities accessible to persons with disabilities. If you are in need of special accommodations, please call 202–225–1721 or 202–226–3411 TTD/TTY in advance of the event (four business days notice is requested). Questions with regard to special accommodation needs in general (including availability of Committee materials in alternative formats) may be directed to the Committee as noted above.

Note: All Committee advisories and news releases are available online at http://www.waysandmeans.house.gov/.

Chairman REICHERT. Well, good morning, and welcome to all of you, and thank you all for being here to testify, and thank you

all for coming to listen, and thank I the Members for being here today to participate in today's hearing.

So, today's hearing is on the new federal Maternal, Infant, and Early Childhood Home Visiting program. Someone apparently thought naming a program MIECHV made sense.

[Laughter.]

Chairman REICHERT. But, fortunately, we have the pronunciation of this acronym, and it is relatively simple: MIECHV Program. So I am going to stick with that, if you guys don't mind.

At its core, this program is designed to improve outcomes for children and families who face the greatest risk for abuse and neglect and a host of other problems that place too many kids far behind on the road of life. Small home visiting programs have operated for decades using a mix of federal, state, and private funds. But the MIECHV program, when it was created in 2010, marked the first time there was dedicated federal funding for this purpose.

Our purpose today is to review what we know about the effects of this program, so we can begin thinking about next steps. Earlier this week we got a little more time with the program's extension through March 20 of 2015. But there is a lot to consider here, so it is good that we have a head start.

For instance, we need to review whether the actual outcomes of this program are living up to its promise, in terms of producing better outcomes for children and families. We also need to think about whether the program's mix of supporting proven and promising approaches continues to make sense. And we should consider whether this program should continue to have 100 percent federal funding, especially since some of the positive outcomes we hope to see will benefit our state partners.

For my part, I am interested in how we can apply the basic discipline of this program, which uses taxpayer funds to support what we know works to help children and families. Two other government programs today can't say the same thing. Fortunately, we have the—a distinguished set of experts to help us sort through these questions more thoroughly today, and that list includes a service provider and recipient of home visitation services from my home state of Washington, so we will have an opportunity to ask some real how-does-this-work-at-the-ground-level questions.

We welcome all of our witnesses today, and we look forward to their testimony.

Chairman REICHERT. Mr. Doggett, would you care to make an opening statement?

Mr. DOGGETT. Thank you very much, Mr. Chairman. And I share the objectives that you just outlined. We have heard so much over the last several years in this Subcommittee about the extent of maltreatment and abuse of children across the country, and the need to focus more of our resources not just on responding to that abuse after it has occurred, but what can we do to prevent maltreatment.

The enactment of this federal home visiting program, building on the experience of many local and state initiatives that were already existing back in 2010 I think was an important step forward. It is an investment in prevention and future development of children. I believe there is considerable evidence that this is a wise invest-

ment, though, as some of our witnesses point out, it may be difficult to quantify all aspects of the benefits. And this cannot be a one-size-fits-all kind of approach, because these are families with children in different kinds of positions, and we need to adapt the program and look for the most cost-effective way to reach the largest number of children.

It is not surprising that a group representing some 5,000 law enforcement officers around the country fight crime, invest in kids, has recognized that if you have good home visiting programs, they will need to visit, as law enforcement officers, fewer homes and other places where violence or crime occurs.

The decision last week of the House to continue this program on a temporary extension of one—another year of funding into next spring represents some progress. I think we need a little more certainty than going from year to year, or six months to six months.

There has been good benefit from this program in the State of Texas, in both the City of San Antonio and in the City of Austin and the surrounding areas, there have been programs that have benefitted from the Nurse Family Partnership, and there has been investment from the State of Texas that has been important. Between, really, just over the three years of MIECHV, the State of Texas has received about $50 million, a significant amount of money, but perhaps not that significant, compared to the needs that exist there. The money has not been spent in a vacuum; the state has worked to try to build a network of high-quality programs, and to invest some of its own money in these programs.

The division of monies in MIECHV so that some of it is focused on evidence-based—most of it is focused on evidence-based programs, important that we have evidence-based programs, but that we also continue to look at a few programs that are new and innovative, so that we can assure that we are pursuing every alternative that would be cost efficient in this area.

Mr. Chairman, I would explain to the witnesses that at the same time this hearing is taking place, the House Budget Committee is marking up a resolution that I really think would threaten the continuation of home visiting, child abuse services generally, and a wide range of social services. So we will be having recurrent votes this afternoon there, and I will be in and out, with no disrespect to our very diverse and experienced panel, so that we raise appropriate issues in the course of the budget resolution.

And I thank you, and yield back.

Chairman REICHERT. I thank you, Mr. Doggett. And, without objection, each Member will have the opportunity to submit a written statement and have it included in the record at this point.

And I want to remind our witnesses to please try and limit their oral testimony to five minutes. All of your testimony will be included in the record.

Our panel this afternoon is made up of five folks, as everyone can see. And our first witness this afternoon is Crystal Towne, RN, Nurse-Family Partnership Home Visitor, Yakima Valley Memorial Hospital. Welcome.

Sherene Sucilla, a former Nurse-Family Partnership Program participant; Darcy Lowell, CEO, Child First; Jon Baron, president,

Coalition for Evidence-Based Policy; and Rebecca Kilburn, senior economist, RAND Corporation. Welcome to all of you.

And, Ms. Towne, you are recognized for five minutes.

STATEMENT OF CRYSTAL TOWNE, RN, NURSE–FAMILY PARTNERSHIP HOME VISITOR, YAKIMA VALLEY MEMORIAL HOSPITAL

Ms. TOWNE. Good afternoon, Chairman Reichert, Ranking Member Doggett, and Members of the Subcommittee. Thank you for this opportunity to testify on behalf of the Nurse-Family Partnership Program in support of evidence-based home visiting.

I am Crystal Towne, and I am a nurse home visitor for Yakima Valley Memorial Hospital in Yakima County, and have been a nurse home visitor since 2003. I am here with one of my former clients, Sherene Sucilla, who graduated from the Nurse-Family Partnership Program two years ago, and is a wonderful example of how this innovative program can empower young mothers to succeed. I am here in support of the MIECHV program, which is currently serving 80,000 families nationwide, including our Yakima County NFP program.

In Washington, NFP is one of several home visiting models offered as part of a continuum of services that are supported at the state level. A higher percentage of pre-term and low birthweight babies, an agriculturally-driven economy, low high school graduation rates, and high gang activity in the area make NFP a critical element of the county's continuum of services.

As a nurse home visitor, I work with first-time, low-income mothers and their families over the course of a little over two years. I visit each client in their homes approximately every other week, and I have a caseload of no more than 25 clients at one time. These visits begin early in pregnancy, and last until the child's second birthday. Through these, I empower each client to have a healthy pregnancy, improve her child's health and development, and set goals to achieve economic self-sufficiency. I do this by meeting the mom where she is at at the time, not where I would like her to be. In NFP we call this a client-centered approach.

The NFP curriculum guides us to talk about the right issues at the right time, such as how can I stay healthy in pregnancy. What do I do when I am stressed out? How can I set goals for my life? Breastfeeding and infant attachment. The trust I build with my clients begins the moment I walk through their door for the first time.

Sometimes my initial visit is filled with laughter and joy. But often times, when serving a young client especially, it is filled with great insecurity. The things that I hear most often are, "My parents are so angry with me. My boyfriend is no longer there for me. My friends don't understand why I won't go out to parties any more. I am so lonely." I listen to their story for the next two-and-a-half years, building on our trusting relationship. I listen to clients who experience mental illness, intimate partner violence, substance abuse, living in poverty, lack of family support, and health disparities.

Sherene is one of hundreds of stories I have had the honor to hear. She is a truly amazing woman and I am so proud to have

the opportunity to have been her nurse, her counselor, her life coach, her confidante, her support system, and, most importantly, I am her friend. Every client's story is unique. But since she is here with me today, I would like to share my experience as Sherene's home visiting nurse.

On May 6, 2010, I knocked on her front door for the first time. I did not know much about her, only that she was 10 weeks pregnant, and she had been in several foster care homes throughout her youth. During our first encounter, I wanted to ask her several questions, but I did not. I listened. I wondered how a young woman could appear so happy and speak about her goals for her future and her hopes and dreams, but have several scars on her arms. We never have talked about those scars. It didn't need to be said. I recognized that Sherene's smile didn't always come easily. But, despite her past and future challenges, Sherene is a truly resilient woman who has the hope and the drive to provide a better life for her child.

Since we have ended the program two years later, today Sherene has a job she loves. She is self-sufficient. She is living in a wonderful home. And she is actively involved in her son's life. She has not given up on continuing her dream for continuing her education. But sometimes being a great parent means postponing some of those personal goals.

In closing, NFP applauds the subcommittee and the larger body of Congress for support of the MIECHV program. Thank you again for this opportunity to testify before you today. I appreciate it.

[The prepared statement of Ms. Towne follows:]

STATEMENT OF
CRYSTAL TOWNE
NURSE HOME VISITOR, NURSE-FAMILY PARTNERSHIP
YAKIMA VALLEY MEMORIAL HOSPITAL

BEFORE THE
HOUSE COMMITTEE ON WAYS & MEANS
SUBCOMMITTEE ON HUMAN RESOURCES

APRIL 2, 2014

Good afternoon Chairman Reichert, Ranking Member Doggett, and Members of the Subcommittee. Thank you for the opportunity to testify on behalf of the Nurse-Family Partnership (NFP) program and Yakima Valley Memorial Hospital in support of evidence-based home visiting and the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program.

I am Crystal Towne and I have worked as a Nurse Home Visitor for the Nurse-Family Partnership program serving Yakima County, WA since 2003. I am here with one of my former clients, Sherene Sucilla, who graduated from the Nurse-Family Partnership 2 years ago and is a wonderful example of how this innovative program can empower young mothers to succeed. As a nurse home visitor, I serve a caseload of no more than 25 first-time, low income mothers and their families.

I am here in support of the federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program which is currently serving over 80,000 families nationwide and 1,320 families in Washington State. On behalf of the mothers, children and families served by Nurse-Family Partnership, I want to thank Chairman Reichert and the Members of this Subcommittee for their commitment to improving the health and well-being of children with dedicated funding for evidence-based home visiting programs. Your work is paving the way for a healthier, brighter future for at-risk children and families.

Every year, approximately 800,000 first time, low-income mothers become pregnant with their first child. Nationwide, the Nurse-Family Partnership (NFP) model has served over 190,000 families to date, and currently has over 28,000 first-time families enrolled in 43 states, including Washington State. National expansion of this program will dramatically improve the lives of at-risk families and yield returns to society in more stable and productive families. For every 100,000 families served by NFP, research demonstrates that 14,000 fewer children will be hospitalized for injuries in their first two years of life; 300 fewer infants will die in their first year of life; 11,000 fewer children will develop language delays by age two; 23,000 fewer children will suffer child abuse and neglect in their first 15 years of life; and 22,000 fewer children will be arrested and enter the criminal justice system through their first 15 years of life, among other outcomes.

In Washington, the NFP model currently serves about 1,300 families throughout 14 counties and one tribal entity. NFP is one of several home visiting models offered as part of a continuum of services supported by the Washington Department of Early Learning and Thrive by Five Washington at the state level, which also include Parents as Teachers, Early Head Start Home-based option, and the Parent-Child Home Program among others. NFP services in Washington are implemented by several local health and community service agencies. Public investments such as the federal MIECHV grants and the state's Home Visiting Services account (HVSA) fund evidence-based home visiting but also support promising and research-based programs. The HVSA includes a private match on public dollars for evidence-based, research-based, and promising voluntary home visiting services; and infrastructure supports for home visiting programs, including training, quality improvement, and evaluation are delivered through Thrive by Five's Implementation Hub.

In Yakima, the Nurse-Family Partnership is operated by the Yakima Valley Memorial Hospital, in partnership with the Yakima Valley Farmworkers Clinic. The program is housed at Children's Village, and currently has the capacity to serve 150 families. The site uses innovative strategies to support funding the NFP program, including local support, federal MIECHV funding, and private support through the Thrive by Five Washington HVSA. Gang activity and high crime rates in the

area make Nurse-Family Partnership a critical element of the county's continuum of services for prevention and families in need.

NFP is a voluntary program that provides regular home visits to low-income, first-time mothers by registered nurses beginning early in pregnancy and continuing through the child's second year of life. The program is free and voluntary to the women that enroll. The children and families NFP serves are young, living in poverty, and at the highest risk of experiencing significant health, educational and employment disparities that have a lasting impact on their lives, their families, and communities. Nationally, 31 percent of families served by Nurse-Family Partnership are Hispanic; 27 percent are African-American; 42 percent are Caucasian; and 3 percent are Native American or Alaskan Native.

NFP nurses and their clients make a 2 ½ year commitment to one another, and develop a strong relationship over the course of 64 planned visits that focus on the strengths of the young mother and on her personal health, quality of care giving, and life course development. Their partnership with families is designed to help them achieve three major goals: 1) improve pregnancy outcomes; 2) improve child health and development; and 3) improve parents' economic self-sufficiency. By achieving these program objectives, many of the major risks for poor health and social outcomes can be significantly reduced.

Over the past 10 years, I have worked with hundreds of young parents, like Sherene, to help them feel empowered and supported while starting out with their first child. I am so proud to be their nurse, counselor, life coach, confidant, support system, and most importantly their friend through this journey. Every client's story is unique and since she is here with me today, I would like to share my experience as Sherene's nurse home visitor.

On May 6, 2010, I knocked on Sherene's front door for the first time. I did not know much about Sherene, only that she was 10 weeks pregnant and had spent her childhood living in several foster homes. She answered the door with a kind, warm smile and invited me inside. We spent the next 2 hours talking, connecting, and setting the foundation for what became a much longer relationship.

During that first encounter, there were several questions I wanted to ask, but did not. I wondered how a young pregnant woman could appear so happy and speak about her hopes and dreams for the future, but yet have several scars on her arms. I quickly recognized that Sherene's smile did not always appear easily, but she is a resilient woman who has hope, even in the face of past and current challenges.

Since meeting Sherene, several of those questions have been answered. Her father is deceased, and her mother has spent her life challenged with various addictions that ultimately led to her separation from Sherene. When she was 10, her grandfather died. She spent the next 8 years in foster care. Her grandfather's death had a huge impact. She describes him as an amazing man, who instilled the importance and love of education. He is the only person displayed on her living room wall.

I identified Sherene's family history with Type 2 diabetes – her sister, father, and grandmother all suffered from this disease. In addition, Sherene had a significant history of depression that was addressed numerous times during pregnancy although she elected for no intervention. However, this history did precipitate conversation related to post-partum depression and multiple Edinburgh Postnatal Depression Scales. Sherene was referred for essential primary care services such as her

Tdap and flu shots. I also helped her to find dental services when her own efforts to do so had failed.

In my role as a nurse home visitor, I work with each client to help her to establish and pursue her education, employment, and life course development goals. Sherene was determined to continue with her education and despite attending seven different high schools, she graduated from high school on time. She now has a steady job in a wonderful career. Sherene's biggest priority is self-sufficiency and providing economic stability for her son, Andrew. It is also her dream to raise her son in a loving, supportive family. She and her husband were recently married and both share the dream of continuing to grow as a family. Sherene aspires to continue working towards her educational dreams, and she hopes to pursue a degree in social work. She feels it is her calling to connect with and support youth in our community. I know that she will be a great role model.

Stories like Sherene's are just a glimpse of the impact that Nurse-Family Partnership has on low-income, first time parents. NFP can help break the cycle of poverty by empowering young mothers to become knowledgeable parents who are able to care for their children and guide them along a healthy life course. NFP nurses use a client-centered approach, which means the nurse is constantly adapting to the needs of the family, ensuring that each visit is relevant and valued by the parent(s). These client-centered principles drive our practice with families to create positive, lasting change for the family that sustains long after our time as their nurse home visitor has ended. These principles include:

- The client is the expert on her own life. When the client is the expert, you build solutions based on information provided by the client on what's relevant and valued to her.
- Follow the client's heart's desire. The client leads the way and the central focus is on what the client wants. Find our what they want to do and help them do it.
- Focus on strengths. By focusing on capabilities, opportunities and successes, while being aware of risk factors, you can support the client through tough situations and encourage them to move forward, in turn, helping them to develop this strength within themselves that can sustain long after my visits are completed.
- Focus on solutions.
- Only a small change is necessary. The experience of one small success builds self-efficacy and causes a ripple effect in other areas of functioning and creates a context for bigger changes.

NFP nurses also continue to monitor the model's progress in the field through data collection, which nurses submit to the national database, and receive quarterly and annual reports evaluating the local program's ability to achieve sizeable, sustained outcomes. Each NFP implementing agency's goal is not only to improve the lives of first-time families, but also replicate the nurse home visitation model that was proven to work through rigorous research.

NFP is an evidence-based program with multi-generational outcomes that have been demonstrated in three randomized, controlled trials that were conducted in urban and rural locations with Caucasian, African-American and Hispanic families. A randomized, controlled trial is the most rigorous research method for measuring the effectiveness of an intervention because it uses a "control group" of individuals with whom to compare outcomes to the group who received a specified intervention. The NFP model has been tested for over 35 years through ongoing

research, development, and evaluation activities conducted by Dr. David L. Olds, founder of the NFP model and Director of the Prevention Research Center for Family and Child Health (PRC) at the University of Colorado in Denver.

Dr. Olds and his research team have conducted three randomized, controlled trials with diverse populations in Elmira, NY (1977), Memphis, TN (1987), and Denver, CO (1994). Evidence from one or more of these trials demonstrates powerful outcomes including the following (in connection to each of NFP's program goals):

Improved pregnancy outcomes

- Reductions in high-risk pregnancies as a result of greater intervals between first and subsequent births, including a 28-month greater interval between the birth of first and second child.
    - 31% fewer closely spaced (<6 months) subsequent pregnancies,
    - 23% reduction in subsequent pregnancies by child age two, and
    - 32% reduction in subsequent pregnancies for the mother at child age 15 (among low-income, unmarried group)
- 79% reduction in preterm delivery among women who smoked
- 35% fewer hypertensive disorders during pregnancy

Improved child health and development

- 39% fewer injuries among children (among low-resource group)
- 56% reduction in emergency room visits for accidents and poisonings
- 48% reduction in child abuse and neglect
- 50% reduction in language delays of child age 21 months
- 67% reduction in behavioral and intellectual problems at child age 6
- 26% improvement in math and reading achievement test scores for grades 1-3
- 59% reduction in arrests at child age 15
- 90% reduction in adjudication as PINS (person in need of supervision) for incorrigible behavior

Increased family self-sufficiency

- 61% fewer arrests of mothers at child age 15
- 72% fewer convictions of mothers at child age 15
- 20% reduction in welfare use
- 46% increase in father presence in household
- 83% increase in labor force participation of mothers at child age 4

As the NFP model has moved from science to practice, great emphasis has been placed on building the necessary infrastructure to ensure quality and fidelity to the research model during the replication process nationwide. In addition to intensive education and planned activities for nurses to conduct in the home, NFP has a unique data collection system called Efforts-to-Outcomes (ETO) that helps NFP monitor program implementation and outcomes achieved. It also provides continuous quality improvement data that can help guide local practices and monitor staff performance. NFP's ETO system was designed specifically to record family characteristics, needs, services provided, and progress towards accomplishing NFP program goals.

NFP's replication plan reflects a proactive, state-based growth strategy that maximizes fidelity to the

program model and ensures consistent program outcomes. NFP urges Congress to support a wide range of home visitation models that meet the highest level of evidentiary standards in order to ensure the largest possible economic return on investment. NFP applauds Congress for their bipartisan, bi-cameral support for the MIECHV program and in particular, this Subcommittee for your collective commitment to funding programs proven to work through rigorous, scientific evidence and research.

The bipartisan-supported MIECHV program provides critical funding to states, territories, tribes and tribal organizations to implement and expand evidence-based home visiting services that have been proven to produce significant health, educational and economic outcomes for low-income children and families. MIECHV grantees have established benchmark requirements that will measure effectiveness of these programs on reducing poor birth outcomes, child abuse, neglect and injuries, cognitive and learning disabilities, dependence on public assistance, and juvenile delinquency and crime, among other outcomes. These outcomes are saving state and federal government significant resources in reduced health, child welfare, foster care, remedial education and criminal justice expenditures. State governments have invested in Nurse-Family Partnership and other evidence-based home visiting programs for decades because of the impressive outcomes and cost-savings resulting from improved child and family outcomes. The MIECHV program is strong and cost-effective federal policy that is joining states and local agencies to support these valuable services to at-risk families.

Independent evaluations have found that investments in NFP lead to significant returns to society and government (Washington State Institute for Public Policy, 2004 & 2008; 3 RAND Corporation studies 1998, 2005, 2008; Blueprints for Violence Prevention, Office of Juvenile Justice and Delinquency Prevention; and Pacific Institute for Research & Evaluation). Blueprints identified NFP as 1 of 11 prevention and intervention programs out of 650 evaluated nationwide that met the highest standard of program effectiveness in reducing adolescent violent crime, aggression, delinquency, and substance abuse. The RAND and Washington State reports weighed the costs and benefits of NFP and concluded that the program produces significant benefits for children and their parents, and demonstrated a savings to government in lower costs for health care, child protection, education, criminal justice, mental health, government assistance and higher taxes paid by employed parents. Most recently, the Pacific Institute for Research & Evaluation released a report in April 2013 which found significant government savings from the NFP model in particular, Medicaid and health care cost savings. For example, in Washington, this formula translates into $19,023 in government savings per family by the child's 18th birthday, with 55% of these savings attributable to Medicaid. Recent analyses indicate that the costs of NFP compared to other home visitation programs fluctuate by region, and even though the NFP model is more intensive than other programs, it is not always more expensive.

The Nurse-Family Partnership thanks the Subcommittee for your continued interest in this important issue and in particular, the federal MIECHV program, which has significantly assisted states like Washington to implement and expand evidence-based home visiting servings to serve more needy families. States have embraced this accountable program to improve a host of conditions that hinder children and families from becoming healthy, thriving in school and achieving economic success. MIECHV saves scarce taxpayer resources and produces tangible results. I hope that the Subcommittee will continue to support the MIECHV program, which is serving thousands of vulnerable children and families nationwide. Thank you again, Chairman Reichert, Ranking Member Doggett, and Members of the Subcommittee, for the opportunity to testify today.

Chairman REICHERT. Well, thank you, Ms. Towne. And we applaud you for your hard work. And we know that you can't do this work without becoming a friend to those that you help.

Ms. TOWNE. Yes.

Chairman REICHERT. And thank you for having the heart of a servant.

Ms. TOWNE. Thank you.

Chairman REICHERT. You are welcome. Thank you, Ms. Towne.

Ms. Sucilla, you are recognized.

STATEMENT OF SHERENE SUCILLA, FORMER NURSE FAMILY PARTNERSHIP (NFP) PROGRAM PARTICIPANT

Ms. SUCILLA. Good afternoon, Chairman Reichert, Ranking Member Doggett, and Members of the Subcommittee. Thank you for the opportunity to testify on behalf of the Nurse-Family Partnership Program in support of evidence-based home visiting and the Maternal, Infant, and Early Childhood Home Visiting Program. My name is Sherene Sucilla, and I was a client with the Nurse-Family Partnership Program delivered by the Yakima Valley Memorial Hospital in Yakima, Washington. And I am the incredibly proud mother of my son, Andrew, who is now four years old.

As a client, I received regular visits about every other week from my NFP nurse home visitor, Crystal Towne, starting when I was just a couple of months pregnant, through my son's second birthday. I am here on behalf of the mothers like me, the children like my son, Andrew, and families like our own, in support of home visiting. I am honored to be here today, to get to thank you all in person for your commitment to improving the health and well-being of children and dedicated funding for evidence home-based visiting programs.

This program has meant so much to me and my family, and I know that if every mom could be here today to share their experience with you, they would be, because it really is a changing experience to be here—to be in this program, excuse me.

I grew up in Yakima, Washington. When I was 12 years old I went into foster care and remained there through my 18th birthday. In those six years I attended seven high schools, which made it very difficult to graduate on time, because I didn't go to school in the same district, so the credits didn't transfer properly. But I did graduate on time, through a lot of hard work. While being in foster care isn't an experience I would wish on any child growing up, I would say that that experience has shaped who I am today.

When I was younger, my mom wasn't really a mom. I didn't really have a role model for parenting. And so, when I found out I was pregnant, I didn't really know what to do. I didn't have anything to go off of, and I was really scared, and I was in this by myself.

I heard about the Nurse-Family Partnership Program through my doctor's office when I found out I was pregnant. Because I was a first-time mom and I met other eligibility requirements, they referred me to the Yakima Valley Memorial Hospital NFP program and Crystal, and I was set up with an appointment for Crystal to come to my home and talk more about the program. After our first meeting, I knew that this was the right program for me, and I looked forward to our regular home visits.

At that point I was new to everything when it came to parenting. But Crystal was a huge help to me and my family. She helped me build confidence and open doors for me to set goals for my life, for myself, and for my family. She helped me find other services I needed, such as dental care, and she would take my blood pressure when I was pregnant, to make sure that I was doing okay. And when I had trouble breastfeeding, Crystal had a breast pump overnighted to me.

And at one point when I was nursing I was afraid that my son wasn't getting enough to grow at a healthy rate, but Crystal would bring a scale, and we would weigh Andrew every week, and she reassured me that he was getting what he needed to grow well and according to schedule. That was the first major moment for me, where I felt like I was doing a good job, that I was a good mother, and that I was getting him what he needed. And now, at four years old, I can often say that he is the tallest kid in his class.

I was also nervous about his development. Like every parent, you want to make sure that your baby or child is keeping up with different milestones, and I didn't know how to assess that. But Crystal would bring in questionnaires called the Ages and Stages Questionnaire, or ASQ, to assess his development at different points in time, and we would know that his development was on track.

I remember throughout the program Crystal would say to me that my son Andrew was a very caring person from a very young age. He was about 13 months when Crystal first commented on how sweet he was. He would give Crystal a hug and actually pat her on the back. At the end of each visit she would leave a form with lots of different feedback, including highlights from that visit, what our next visit would be about, and what I needed to do before our next visit. Looking back at one of the forms, Crystal mentioned how I was raising such a sweet and loving child that his hugs and pats melted her heart.

Crystal was able to point out to me these different signs he was showing of being a very caring human being, even when he was just a toddler, and I remember realizing that if I was raising a son that loving, I really was doing something right, as a parent.

When I found out I was pregnant, I worked at a barbecue stand. When Crystal and I started talking about my future, she helped me look into going back to school. Ultimately, I ended up getting a job and a great career through steps I took when Andrew was younger. I now work in accounts payable for a local heating and air conditioning company, and I have been there for about a year-and-a-half. And I have great job security, as I am the only one in the office doing what I do.

It has been really special and wonderful to look back at all the records that I have while in this program. I have a big binder of all the work, the pictures, and activities that we did. And it is lovely. I can go back and read all my thoughts and feelings from the beginning of my pregnancy to his age of two, when he turned two, and that is really special for us, now that he is four, we can go back and look at everything.

I really hope that Congress will continue supporting the MIECHV program, which supports great programs like NFP. Thank you again for the opportunity to testify today.

[The prepared statement of Ms. Sucilla follows:]

STATEMENT OF
SHERENE SUCILLA
FORMER CLIENT, NURSE-FAMILY PARTNERSHIP
YAKIMA VALLEY MEMORIAL HOSPITAL

BEFORE THE
HOUSE COMMITTEE ON WAYS & MEANS
SUBCOMMITTEE ON HUMAN RESOURCES

APRIL 2, 2014

Good afternoon Chairman Reichert, Ranking Member Doggett, and Members of the Subcommittee. Thank you for the opportunity to testify on behalf of the Nurse-Family Partnership (NFP) program in support of evidence-based home visiting and the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program.

My name is Sherene Sucilla, and I was a client with the Nurse-Family Partnership program delivered by the Yakima Valley Memorial Hospital in Yakima, WA, and I am the incredibly proud mother of my son Andrew who is now 4-years old. As a client, I received regular visits about every other week from my NFP Nurse Home Visitor, Crystal Towne, starting when I was just a couple of months pregnant through my son's second birthday. I am here on behalf of the mothers like me, the children like my son Andrew, and families like our own, in support of the federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program. I am honored to be here today to get to thank Chairman Reichert and the Members of this Subcommittee in person for their commitment to improving the health and well-being of children with dedicated funding for evidence-based home visiting programs. This program has meant so much to me and my family, and I know that if every mom could be here today to talk about their experience with Nurse-Family Partnership, they would be, because it is truly a life changing experience to be part of this program.

I grew up in Yakima, WA. When I was 12-years old, I went into foster care and remained there through my 18th birthday. In those six years, I attended seven different schools, and they weren't always in the same district. This made it difficult to graduate high school on time, since many of the credits I received did not transfer from district to district. However, through a lot of hard work, I graduated on time, and I am very proud of that. While being in foster care isn't an experience I would wish on children growing up, I would say that the experience has shaped who I am today.

When I was younger, my mom wasn't really a mom. I didn't really have a role model for parenting, and I knew I didn't want to be the mom that she was. So when I got pregnant, I didn't really have anything to go off of – I was really scared. I was clueless, and I was in this by myself.

I heard about the Nurse-Family Partnership program through my doctor's office when I found out I was pregnant. Because I was a first-time mom and met the other eligibility requirements, they referred me to the Yakima Valley Memorial Hospital's NFP program and Crystal. We set up an appointment for Crystal to come to my home and talk more about the program. After our first meeting, I knew that this was the right program for me, and I looked forward to our regular home visits.

At that point, I was new to <u>everything</u> when it came to parenting. But Crystal was a huge help to me and my family. She helped me build confidence, and opened doors for me to set goals for my life and my family. She helped me find other services I needed, like dental care, and she would take my blood pressure when I was pregnant to make sure I was doing ok. When I had trouble breastfeeding, Crystal had a breast pump overnighted to me. At one point when I was nursing, I was afraid my son wasn't getting enough to grow at a healthy rate. But Crystal would bring a scale and we would weigh Andrew every week, and she assured me that he was growing well and according to schedule. That was the first major moment for me where I felt reassured that I was a good mother – that I was getting him what he needed, and then I knew I could do this. Now, at four years old, I can laugh and say that he is the tallest kid in his class.

I was also nervous about his development; like every parent, you want to make sure your baby or child is keeping up with different milestones, and I didn't know how to assess that. But Crystal would bring in questionnaires – called the Ages and Stages Questionnaire or ASQ – to assess his development at different points in time, and we would know that his development was on track.

I remember throughout the program, Crystal would say to me that my son Andrew was a very caring person from a very young age, and he really is. He was about 13 months old when Crystal commented on how sweet he was. He would give Crystal a hug and actually pat her on the back. At the end of each visit, she would leave a form with lots of feedback, including highlights from that visit, what our next visit would be about, and reminders of things I needed to do before our next visit. Looking back at one of the forms, Crystal mentioned how I "was raising such a sweet and loving child, that his hugs and pats melted her heart." Crystal was able to point out to me these different signs he was showing of being a very caring human being even when he was a toddler, and I remember realizing that if I was raising a son that loving, I really was doing something right as a parent.

When I found out I was pregnant, I worked at a barbeque stand. When Crystal and I started talking about my future, she helped me look in to going back to school. Ultimately, I ended up getting a job in a great career through steps I took when Andrew was younger. I am now working in Accounts Payable for a local heating and air conditioning company. I've been there for a year and a half and I have great job security, as I am the only one in the office doing what I do.

It's been really special to look back at the wonderful records that I took of Andrew's first full two years of life while in the Nurse-Family Partnership program. I have a big binder of all of the work, pictures, and activities that we did, and I can go back and read my thoughts and feelings from the beginning of my pregnancy, to when he first smiled, first giggled, first sat up - every milestone. Sharing this with him now when he is 4 years old is so special for us, and I know I will have these resources if we decide to have another child in the future.

I would have been pretty lost without this program. Nurse-Family Partnership really gave me the opportunity to be a good parent, and then to realize that I am good at it, and this gives me a proud feeling every day. I don't know what it must be like to be a first-time parent like I was without this support, and I know there are so many more new moms just like me who are in need of this support. Crystal helped me navigate these rough waters of being a new parent. Having a nurse who I could trust with questions about my health when I was pregnant, breastfeeding when I was a new mom, child development as my son was growing, and life goals – helped me to be a successful parent.

When the program came to an end for us, I was very sad because I really did look forward to each visit. Crystal really believed in me and encouraged me every chance she could - enough so that I could believe in myself. I'm proud of all of Andrew's growth as well as my own personal growth. As I look toward my future, I don't think my family would be where we are today without her support. I can proudly say to all of you that I have broken a cycle; while being in the foster system molded me in to who I am today, I am happy that Andrew will never need to experience that kind of instability.

I truly hope that Congress will continue supporting the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program, which supports great programs like Nurse-Family Partnership. Thank you, Chairman Reichert, Ranking Member Doggett, and the Members of this Subcommittee for the opportunity to testify today.

Chairman REICHERT. Great job. Is this your first time testifying in front of Congress?

Ms. SUCILLA. Yes.

[Laughter.]

Chairman REICHERT. You didn't even come across nervous.

Ms. SUCILLA. I am sweating.

[Laughter.]

Chairman REICHERT. So are we. Future congresswoman sitting there, I think.

You know, I just have to make this comment. You did a wonderful job, and, Ms. Towne, you did a wonderful job, also. And I know it is not easy to come before Congress and testify. But the people up here are just regular people, we just happen to be sitting in these chairs, elected by the folks that we represent. But we all come from backgrounds that you might be surprised to hear about.

You know, I grew up in a home. Ran away from home and from domestic violence. And I never became a foster child—by the way, we are working on some foster care legislation that can help kids stay in school and have those records follow, and hopefully stay in one foster home, and hopefully, more than anything, get adopted and have a family they can call their own. So we are working on all of that. And I am sorry you had to go through that, but that just fits into everything that this Committee is trying to accomplish. And you are an all-star, as far as we are concerned.

Ms. SUCILLA. Thank you.

Chairman REICHERT. Yes. Ms. Lowell, you are recognized for five minutes. Microphone?

Ms. LOWELL. Good, okay. Thank you.

Chairman REICHERT. There you go.

STATEMENT OF DARCY LOWELL, CEO, CHILD FIRST

Ms. LOWELL. So, good afternoon. My name is Dr. Darcy Lowell, and I am honored to be here to talk to you today. Thank you for this opportunity to testify on behalf of Child First home visiting and the MIECHV program. And thank you so much for your support of the MIECHV extension; it is so needed.

I am a developmental and behavioral pediatrician, and the founder and CEO of Child First. I also serve as an Associate Clinical Professor at Yale University School of Medicine.

Early in my career, I saw the struggles of vulnerable children and families firsthand, as they tried to cope with trauma and depression, homelessness, and hunger. We needed to think about intervention in a very different way, and so Child First began. I want to give you a feeling for the kinds of families that we work so closely with, and that we serve. And here is a little vignette about one of them.

The Child First mental health clinician met a mother at a pediatric visit for her three-year-old daughter, Maria. The mother was severely depressed. She had run from her husband because of ongoing domestic violence. She and her three children lived in an empty apartment without beds or a kitchen table. Little Maria was about to be expelled from child care for aggressive behavior. Mom worked three jobs, but was still way behind in her rent payments, and the family was about to be evicted. She was desperately afraid that she would lose her children to foster care.

The care coordinator learned from the family that they had been on TANF, but Mom was no longer receiving a check. She, the care coordinator, immediately contacted the Department of Social Services and found out that the check was being sent to her husband

in prison. In less than a week, the check was redirected to the mother. The family situation improved dramatically. Mom now only needed to work one daytime job, and was able to focus on her children. The clinician worked psychotherapeutically with Mom and Maria together, and also consulted in the preschool. Maria's behavior improved markedly. Mom's depression lifted. The care coordinator coached Mom as she worked out a schedule with the landlord to pay back rent. The life course of this family changed dramatically.

What we know is scientific research on early brain development has clearly demonstrated that growing up with stresses of poverty, violence, depression, substance abuse, and homelessness produce a rise in stress hormones and other metabolic chemicals that can severely damage the developing brain and other body systems. This may lead to academic failure, serious mental health problems, and chronic disease, including heart disease, cancer, and diabetes.

However, it is now scientifically documented that the presence of a secure, safe, nurturing relationship between a parent and a young child is actually able to protect the developing brain from damage. We must, therefore, provide intensive intervention at the earliest possible time.

Child First works with the most challenged families, targeting young children under the age of six who suffer from behavioral and developmental problems and abuse and neglect. We take a two-pronged approach—based on what we now know, what the scientific literature tells us—with a team of two professionals working in the home.

First, we must decrease the enormous stress in the environment, and help stabilize families. Our care coordinators work with our parents to connect them to comprehensive, community-based services and supports, like medical services, safe housing, early education, and literacy. Through this process, our care coordinators build the capacity of our parents, and help them to build internal organizational skills that enable them to be successful as parents and workers.

Second, we build the nurturing, responsive, parent-child relationship, because that is what protects the developing brain, even in the face of adversity. Our mental health clinicians use Child-Parent Psychotherapy to heal these two generations, while they help parents promote safe environments for their children to grow and develop, which makes them so ready for school.

To evaluate our model, we conducted a randomized controlled trial with strong, positive results in child language, behavior, maternal mental health, and decreased involvement with Child Protective Services; and with replication we actually have been able to have even better results, with 89 percent of our families improving in at least one major area.

Child First has only the capacity at this time to serve 1,000 children each year in Connecticut, but we know the need is enormous. We have replicated through a public-private partnership with the Robert Wood Johnson Foundation, especially, and our Department of Children and Families. MIECHV has been instrumental in allowing us to move to eight new cities. This support is so essential.

The return on investment is substantial. And though I have no time to tell you about it now, I will say that Child First only costs about $7,000 a year. And if you have psychiatric hospitalization for just three months for one child, it is $130,000. There is major savings in multiple sectors.

I thank the committee most sincerely for your interest and efforts in support of the MIECHV home visiting program serving vulnerable children and families. Thank you.

[The prepared statement of Ms. Lowell follows:]

Testimony before the Ways and Means Subcommittee on Human Resources

Funding What Works: Proven Home Visiting Strategies to Improve Child Wellbeing and Support Economic Mobility

April 2, 2014

Submitted by: Darcy Lowell, MD, Founder and CEO, Child First, Inc.

Congressman Reichert and distinguished members of the Ways and Means Committee:
Good afternoon, my name is Dr. Darcy Lowell. I am honored to be here today. Thank you for the opportunity to testify about our efforts to markedly improve the lives of the most vulnerable children and families through an evidence-based home visiting program called Child First.

I am a developmental and behavioral pediatrician and the founder and CEO of Child First. I also serve as an Associate Clinical Professor in the Department of Pediatrics and Child Study Center at Yale University School of Medicine.

Child First is one of the HHS designated, evidence-based home visiting models within the Maternal, Infant, and Early Childhood Home Visiting initiative (MIECHV). We work with the most vulnerable young children and families, especially children that suffer from significant mental health and behavioral problems. Their families have experienced major challenges in their lives, including depression, domestic violence, abuse and neglect, substance abuse, homelessness, unemployment, food insecurity, and poverty. Currently, Child First operates in fifteen geographic areas throughout Connecticut and serves approximately 1,000 families per year. The need, however, is far greater.

I applaud the Committee's discussion of home visiting models as an important strategy to promote the wellbeing of children. The earliest years of our lives are crucial because they set us on paths leading toward – or away from – good health and wellbeing. While all parents want the best for their children, not all parents have the same resources to help their children grow up healthy. We most often think of family income, education, neighborhood resources and other social and economic factors, which so dramatically contribute to poor childhood outcomes. But even more important are parents' internal resources, their ability to establish strong, stable relationships which nurture and protect their children.

Child First and other home visiting models have a powerful opportunity to change the trajectory of children's lives. As home visiting models, we form an important continuum from health promotion for families that need only a little, to prevention for families with risk, to early and intensive intervention for the most vulnerable, which is the service which Child First provides. The MIECHV program has been a critical catalyst for states like Connecticut to develop strong and effective home visiting networks that strengthen vulnerable families. By intervening early, states can reduce the number of expensive and difficult interventions needed down the road, thus saving local, state, and federal dollars.

Let me tell you the story of Child First. Almost two decades ago, as a developmental and behavioral pediatrician at Bridgeport Hospital in Connecticut, I saw firsthand that many of my young patients had significant developmental, emotional, and behavioral problems. Children were expelled from preschool for aggressive behaviors, but there were no mental health services for them. Typically, the families of these children were struggling with complex issues such as profound poverty, violence, depression and mental illness, substance abuse, and chronic homelessness. The focus was narrowly on the functioning of the child, but no one was helping the families address the adversity in their lives. It was clear to me that to help the child, we had to decrease the enormous stress experienced by their parents. Only then could they be available to nurture and support their children. And to help the families, we had to engage community providers as essential partners – doctors, early education teachers, child welfare social workers, and adult mental health providers – to weave a web of supportive services around the family.

We needed to create a "system of care." The goal was to foster strong, stable, nurturing relationships between parents and children and create a safer and healthier overall environment for the child.

Let me tell you about one of our families:

The Child First Clinician met a mother through a screening at a pediatric visit for her three year old daughter, Maria. The mother was severely depressed. She had run from her husband, with her three children, because of ongoing domestic violence. The husband was now in prison. She lived in an empty apartment, without beds, chairs, or a kitchen table, working three jobs to earn barely enough to pay the rent. She rarely saw her children. Little Maria was about to be expelled from preschool for kicking and hitting other children, and her two older children, once good students, were failing. She just had a car accident and repaired the car so she could get to work. Now she was significantly behind on rent payments, and her family was about to be evicted.

When taking a careful history, the Care Coordinator learned that the family was on TANF, but was no longer receiving a check. She immediately contacted the Department of Social Services, and found out that the check was sent to the husband in prison. In less than a week, the check was redirected to the mother. The family situation improved rapidly. Mom only needed to work one daytime job, and was able to spend time with her children. The Mental Health Clinician worked therapeutically with the mother and Maria together, which helped Mom understand the anger, pain, and fear that Maria – and her other children – experienced. The Clinician also worked with the preschool so that the teacher could understand Maria's suffering, and Maria's behavior improved enormously. At the same time, the Care Coordinator helped locate furniture donations and coached Mom as she worked out a schedule with the landlord to pay back rent. Mom began to feel competent and able. The life course of this family changed dramatically.

Impact of Adversity or "Toxic Stress" on Children

Today, with the current scientific research, we understand so much more about the direct impact of adversity or "toxic stress" on the early development of the brain and metabolic systems in the body. The members of this Committee may already be familiar with research on ACEs (Adverse Childhood Experiences, by Felitti and Anda) and the huge body of research gathered by the Harvard Center of the Developing Child. We now know that high levels of stress during early development – like extreme poverty, child abuse and neglect, maternal depression and other mental illness, parental substance abuse, domestic violence, and homelessness – can produce a rise in cortisol and other chemicals that can seriously damage the structure of the developing brain. These early experiences can lead to chemical changes in the DNA in the nucleus of cells which determine which genes are turned on and off (This new field is called "epigenetics.") This may lead to loss of cognitive potential and academic failure, serious mental health problems, and chronic disease, including the development of obesity, heart disease, cancer, and diabetes. Put simply, if children grow up scared, it will make them sick.

However, of critical importance is the fact that the research also tells us that the presence of a secure, consistent, nurturing relationship with a parent or caregiver is able to protect the young child's brain from this damage, leading to healthy, positive outcomes. With this nurturing relationship, the body does not produce those harmful chemicals. "Toxic" stress becomes "tolerable" stress. But we must remember, 80% of brain growth is completed by three years of age. The older the child, the more difficult it is to change brain structure, and the greater the expense. We must, therefore, provide intensive intervention at the earliest possible time. This is the work of Child First.

Serving Two Generations

One element that makes Child First unique in its home visiting approach is that the home visiting team works with both the child and the parent(s). The Clinician provides psychotherapeutic intervention to parents and children together (indeed the "relationship is the patient"), while parents receive added services around their own depression, anxiety, or parenting challenges. The Care Coordinator provides

hands-on assistance to help children access high quality childcare and early intervention services, while they help parents find housing, food, clothing, job training, and other supports necessary to return to a safer and more functional environment. When the parents' mental health needs and social supports are being addressed, they can engage in more meaningful and healthy relationships with their children.

Two-Pronged Approach for Families

Based on the science, Child First developed a two-pronged approach to intervention, with its two member professional team working together with the child and family in the home:

1) Care coordination: A Bachelors' level Care Coordinator works with the parents or caregivers to connect them to comprehensive, community-based services and supports for all members of the family. This directly decreases the stress experienced by the family (e.g., food pantries, medical services, domestic violence services, safe housing, parent support groups), while simultaneously connecting them with growth-enhancing services (e.g., quality early care and education, IDEA Part C early intervention services, adult literacy). In this process, our Care Coordinator is not just making referrals to services; she is building the capacity of the parent, helping her to build internal organizational and executive function skills that will enable her to be successful as a parent and as a member of the workforce.

2) Psychotherapeutic and psycho-educational intervention: A Master's level, licensed Mental Health/Developmental Clinician facilitates the development of a nurturing, responsive caregiver-child relationship using Child-Parent Psychotherapy (CPP - developed by Alicia Lieberman and Patricia Van Horn). This remediates the effects of adversity and trauma while developing a secure attachment, which protects the brain from the toxic effects of stress. At the same time, the parent or caregiver learns to create a safe, growth-promoting environment where the child can explore, master, and learn. This is the foundation for child wellbeing and for school readiness and a critical strategy to close the achievement gap.

We have found that this two-pronged, two-generation approach works synergistically - the sum is so much greater than its component parts. Beginning "where the family is" and addressing concrete needs helps families feel heard, builds trust, and stabilizes them. This decrease in stress allows parents to begin to build a new, supportive, protective, and nurturing relationship with their child, promoting child emotional growth and cognitive development. This is the foundation for child wellbeing and for school readiness.

Services Families Receive

Child First serves children - from the prenatal period to age 6 years of age - and their families in the home. Children most often suffer from emotional/behavioral or developmental/learning problems, and families face multiple life challenges, especially the experience of trauma, which interfere with their ability to nurture and support their children's development. Many families are involved with child protective services. Referrals come from a broad array of community partner agencies, serving both children and adults, and from families themselves.

Essential components of the Child First intervention include:

- *Engagement*: Our families are extremely wary, often mistrusting the social service system. Our initial goal is to build a relationship of trust and respect with the family. Only with this engagement can true work be accomplished.
- *Comprehensive assessment*: Through engagement and partnership with the family, we develop an initial understanding of the family history, functioning, strengths, needs, and priorities. Continued assessments allow us to gauge family progress and reflect on ways to improve services for the family. By analyzing Child First cross-site outcomes, we are able to continuously refine and improve our services.

- *Plan of Care*: Our team partners with the family to develop a Child and Family Plan of Care, which is a blueprint for the therapeutic intervention and includes comprehensive supports and services for all family members.
- *Psychotherapeutic intervention*: The Mental Health Clinician provides a two-generation home-based parent-child psychotherapeutic and psycho-educational intervention using Child-Parent Psychotherapy, a trauma-informed evidence based treatment.
- *Mental health consultation in early care and school settings*: The Mental Health Clinician works with teachers and childcare providers to understand the child's challenging behavior in the early education environment and develop strategies and supports that lead to healthy emotional development and effective learning. This very frequently extends to other children in the classroom.
- *Care coordination*: The Care Coordinator provides coordinated, hands-on assistance to connect all family members with community-based services and supports.
- *Executive functioning*: The work of both the Clinician and Care Coordinator help the parent with essential skills in self-regulation, organization, planning, and problem solving, which prepare her to engage in further education or enter the workforce.

Child First Collaborates with the Early Childhood Community

An important component of the Child First model is its collaborative relationship with other providers within the community. For Child First to be most effective, it must be embedded within an early childhood continuum of care, serving the highest risk families, with oversight by an Early Childhood Community Advisory Board. Referrals most often come from other providers throughout the community who are seriously concerned about either the risks in the child's environment or the child's behavior. These partners include pediatric primary care, early care and education, IDEA Part-C early intervention, domestic violence, child welfare, and home visiting (e.g., Parents As Teachers, Nurse-Family Partnership, Healthy Families, Early Head Start) among many others. Furthermore, these early childhood and adult community providers are an invaluable resource for the Child First families, with connections ensured by the work of the Child First Care Coordinators.

Evidence-Based Model Based on Research Results

Child First conducted a randomized controlled trial (RCT - published in *Child Development* in 2011[1]) to determine the effectiveness of the model. With the same high risk population that we currently serve, the Child First Intervention group demonstrated strong positive outcomes as compared to the Usual Care Control group.

Specific findings at 12 month follow-up include:

- Child First children were 68% less likely to have language problems.
- Child First children were 42% less likely to engage in aggressive and defiant behaviors.
- Child First mothers had 64% lower levels of depression and/or mental health problems.
- Child First families were 39% less likely to be involved with child protective services, (which were sustained at 33% at three years).
- Child First families had a 98% increase in access to community supports.

Child First Replication

Our goal was to replicate Child First throughout the state of Connecticut, so that we had an affiliate Child First program in each of the Department of Children and Families (DCF) geographic areas, to meet the needs of these very vulnerable children. Although we are extremely pleased that we now have 15 sites

[1] Lowell, D.I., Carter, A.S., Godoy, L., Paulicin, B., Briggs-Gowan, M.J. (2011). A Randomized Controlled Trial of Child FIRST: A Comprehensive, Home-Based Intervention Translating Research into Early Childhood Practice. *Child Development, 82*(1), 193-208.

and 40 teams, with a footprint in each DCF Area, we are unable to meet the demand for services – with long waiting lists at all our affiliate agencies – and almost 50% of the towns in Connecticut not covered at all. The need for this service in Connecticut is enormous. But, Connecticut is not alone in its battle to provide needed services to young children with mental health problems and extremely challenged families. In fact, Child First has been contacted by over 25 other states interested in replicating our model.

Training for Child First Clinicians and Care Coordinators

In order to ensure the same excellent results that we obtained with our randomized trial, intensive training and ongoing consultation and technical assistance are essential. We are working with families who have the most serious and costly problems. There is no easy "fix." All new Child First affiliate agencies participate in a Learning Collaborative to learn the Child First model. This is a year-long process in which a minimum of twelve teams from four to six agencies implementing Child First learn the model together, using the most recent expertise with regard to adult learning. This entails a minimum of four multi-day, on-site trainings, as well as distance learning using video conferencing, on-line training, readings, and observations. A critical element of the learning process is the use of weekly/biweekly reflective clinical consultation, provided to each site by a Child First senior clinical consultant for a full year.

Data Analysis and Outcomes

How do we know that this intervention is actually working? We have collected both implementation and outcome data within our cross-site data systems from the onset of services, and required that all our affiliate sites meet rigorous benchmarks and fidelity standards. We are very pleased to report that our results have surpassed those in our original RCT with 89% of our families improving in at least one major area. For example, 87% of children improved in either social competence or behavior problems; 80% of caregivers experienced decreased depression. We are now intensifying our data analysis and hope to follow our children and families longitudinally to obtain data about long-term effectiveness and return on investment.

Funding Sources

Replication of the model in Connecticut was initially supported by a public-private partnership. Philanthropy has played an essential role with over $7.7 million coming from the Robert Wood Johnson Foundation and more than $2.5 million from state and local philanthropy, including the Grossman Family Foundation and more than 20 other funders. The Connecticut Department of Children and Families has contributed significantly since FY2010, now providing ongoing funding of $4.4 million annually supporting nine affiliate agencies. MIECHV funds are providing $3 million annually to Connecticut to support our five newest sites in extremely high need cities, with expansion in three others. This funding has been critical.

Given the demand for services, we hope that we will be able to become part of the State Medicaid Plan in order to leverage the current state expenditures and bring significant federal matching dollars to Connecticut. With this strategy, we hope to expand our reach so that any Connecticut child has the possibility of receiving our help. We are exploring this option with DCF and the Department of Social Services.

Cost-Savings

The implementation of Child First can lead to dramatic cost savings. The State of Connecticut is taking a proactive stance to prevent serious mental health, physical health, and academic problems, which are not only costly to the state now, but will dramatically escalate in cost in later years if not addressed. Child First has the potential to save the state millions of dollars if implemented broadly. The areas in which we see substantial savings are related not only to the child, but to the parents as well. They include child welfare (assessment, treatment, and foster care), special education, psychiatric and substance abuse treatment, emergency room usage and hospitalizations, and incarceration, among others. In fact, an initial cost-benefit analysis indicates that within a single year of implementation (with federal Medicaid funds

supporting 25% of cost), the Child First intervention is cost neutral for the State of Connecticut. Furthermore, the impact on the parent is significant, with increased capacity to enter the workforce and therefore reduced costs of TANF, Medicaid, and other federal and state assistance.

The cost of Child First services for a family of four is about $6,900 (with variation due to salaries and travel time). The cost for residential treatment for psychiatric disturbance for a single child for a year is about $115,000. If the child needs psychiatric hospitalization for just three months, it can cost $130,000. Foster care costs more than $17,000 per year for a single child. Special education services for language delay cost $16,600 per child. The return on investment is very substantial.

Recognition

Child First has been recognized by the Coalition for Evidence-Based Policy and the Social Impact Exchange, and highlighted by the Harvard Center on the Developing Child, the Pew Home Visiting Campaign, Zero to Three, the National Conference of State Legislators, the American Hospital Association, and the Connecticut Hospital Association.

Conclusion

Mr. Chairman, you and your Committee members understand the impact that child abuse, poverty, and domestic violence have upon children and families. Thanks to cutting edge research, we now have essential knowledge about brain science and the impact "toxic stress" has on children and the adults they will become, if it is not diagnosed and effectively treated. That said, we can and should take a comprehensive approach that envisions a culture of health for all families and especially for our most vulnerable children and families. This means we must include prevention in all of our efforts.

We have the research and knowledge. We must act on it:

- Intervene during the earliest years, when the brain is most rapidly developing.
- Utilize a broad, two-generation approach:
    - Focus on the development of a nurturing parent-child relationship as fundamental to protecting the child from adversity.
    - Weave a web of comprehensive, supportive services for children and their families, decreasing the stress and improving parental capacity and stability, so that all family members can thrive.
- Build comprehensive early childhood systems that provide a continuum of care, so that each family has the opportunity to receive the unique level of support and services essential for healthy outcomes.

Child First continues to work diligently to achieve excellent outcomes with the most vulnerable children and parents. I thank you and your Committee for your support of home visiting programs and your interest in the wellbeing of vulnerable children and the economic stability of their parents.

Thank you so very much for this opportunity to appear before the Committee.

With warm regards,
Darcy Lowell, MD

Contact information:

Darcy Lowell, M.D., CEO, Child First, Inc.
E-mail: darcylowell@childfirst.com
Telephone: (203) 538-5222
Address: 917 Bridgeport Avenue, Shelton, Connecticut 06484
www.childfirst.com

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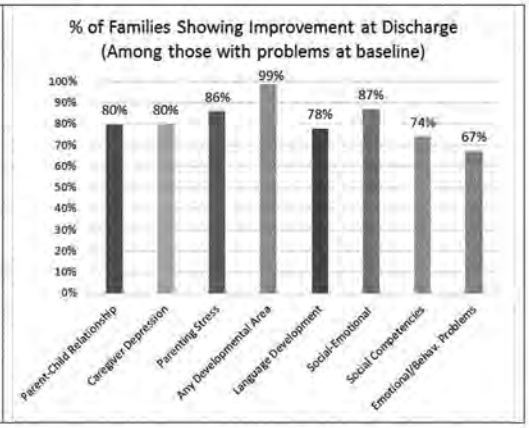
Graphs of Outcomes
Cohorts 1 and 2, Oct 2011 – Sept 2013

OVERALL OUTCOMES

Improvement by Areas

Of those children and parents who had problems at baseline, this graph shows the percentage that had clinical improvement in each area.

Overall **88.6%** improved in at least one areas, **69.4%** improved in a least two areas, and **54.1%** in at least three areas

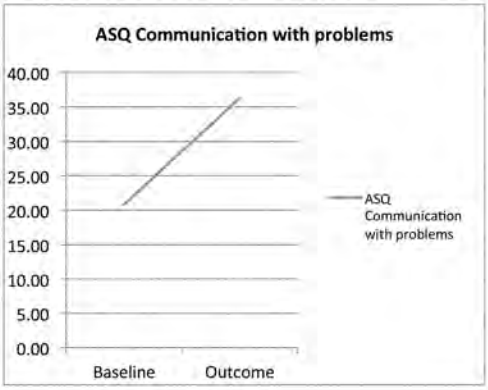


CHILD OUTCOMES

CHILD LANGUAGE
(ASQ Communications)

Children with language delay at baseline showed strong improvement.

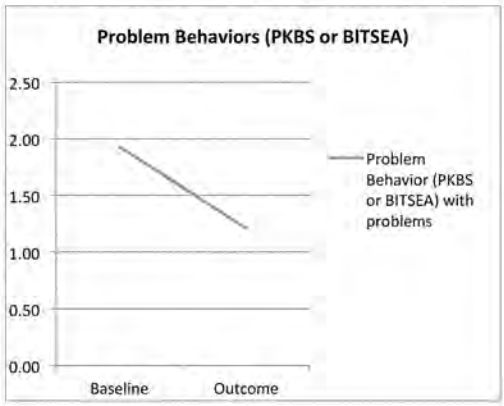
p<0.0001
Effect size: Cohen's d=1.06



PROBLEM BEHAVIORS
(PKBS-2 or BITSEA)

Children that presented with problem behaviors at baseline showed strong improvement

p<0.0014
Effect size: Cohen's d=.68

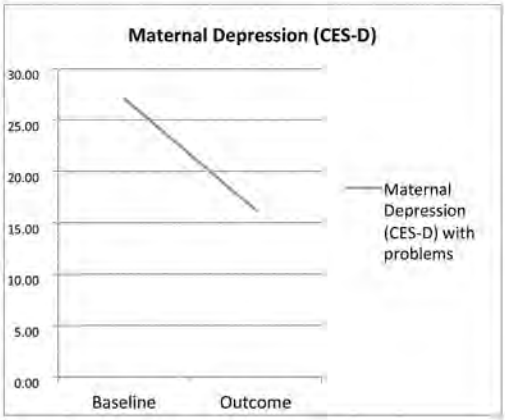


PARENT OUTCOMES

MATERNAL DEPRESSION
(CES-D)

Mothers that presented with depression at baseline showed strong improvement.

p<0.0001
Effect size: Cohen's d=1.07



child first

CHILD FIRST OUTCOMES
Cohorts 1 & 2, April 2010 – September 2013

HIGHLIGHTS: Outcome Data Analysis
Outcome data is provided for the entire period of time that families were receiving services. We are presenting total combined data for Cohorts 1 and 2 for the period of April 2010 – September 2013. All data is analyzed by the Research and Evaluation Team at the University of Connecticut Health Center (UCHC) and reported back to the Child First Central Program Office (CPO) every three to six months.

Baseline data at intake for Cohorts 1 and 2:

- Trauma: 96.2% of parents scored positive on the Life Stress Checklist (LSC) and 83.1% of children were reported to have experienced at least one traumatic event (TESI - a serious accident, child abuse or neglect, witnessed violence, etc.).
- Stress and depression: 70.7% of parents scored positive for parental stress (PSI) and 43.1% for maternal depression (CES-D)
- Emotional/behavioral problems: 69.1% of children scored positive for behavior problems and 49.4% had impairment in social skills/competence, with 78.2% having impairment in either behavior or social skills (BITSEA or PKBS-2).
- Language and other developmental issues: 48% were identified with developmental issues (ASQ). Specifically, 25.6% had delays in language and 26.3% had delays in cognition.

***Overall Improvement*:**
Data was analyzed to see what percentage of our children and families improved by at least 8% (representing a clinically significant change) in at least one important measure. All scores were converted to T scores for this analysis. **88.6% of children and families showed improvement in at least one area**, 69.4% in at least two areas, and 54.1% in at least three areas.

***Improvement by Domain*:**
Data was analyzed to determine if there was statistically significant change in functioning from baseline to discharge scores in those children or parents who presented with problems in each of the key areas targeted for improvement. Child First has continued to show very strong outcomes (as expected by the results of our randomized controlled trial) when evaluated across all Cohort 1 and 2 replication.
For each domain, we report:

a) % of those with baseline problems that showed at least an 8% improvement.
b) p value or statistical significance of the finding, reflecting the certainty that these are real, not chance results. A $p<.05$ is considered a "statistically significant" finding. (e.g., $p<.05$ means that there is a 1 in 20 possibility that this finding was by chance.) In most cases, our p values are $p<.0001$, meaning that there is only 1 in 10,000 that this finding was by chance.
c) Cohen's d or "effect size," reflecting the magnitude or importance of the effect that we have had on the outcome (0.2 is small, 0.5 is moderate, .8 is large, and 1.0 is very large). In most analyses, our effect size is large to very large.

Outcomes:

- ***Emotional/Behavioral Problems or Social Competence*** *among all children with problems at baseline (measured by BITSEA or PKBS-2):*
  - *Problems in behavior* ***or*** *social skills/competence:* **87.0% improved**
  - *Emotional/behavioral problems only:*

(a) **66.8%** improved
(b) Statistically significant improvements from baseline to discharge (p<.0014)
(c) Moderate to large effect size: (Cohen's d=0.68)

- *Social skills/competence impairment only:*
  (a) **74.4%** improved
  (b) Statistically significant improvements from baseline to discharge (p<.0001)
  (c) Large to very large effect size: (Cohen's d=0.97)

- ***Language or Cognitive Development*** *among children with problems at baseline (measured by ASQ):*
  - *Developmental problems* in any domain of the ASQ: **98.8%** improved
  - ↑ in Problem Solving: **83.3%** improved, with Cohen's d of 1.12 and p<.0001
  - ↑ in Communication: **77.8%** improved, with Cohen's d of 1.06 and p<.0001
  - ↑ in Personal Social Skills: **81.3%** improved, with Cohen's d of 1.01 and p<.0001
  - ↑ in Gross Motor skills: **91.7%** improved, with Cohen's d of 1.42 and p<.0001
  - ↑ in Fine Motor skills: **83.3%** improved, with Cohen's d of 1.12 and p<.0001

- ***Maternal Depression or Stress*** *among all parents with problems at baseline:*
  - *Maternal depression (measured by CES-D):*
    (a) **80.0%** improved
    (b) Statistically significant improvements from baseline to discharge (p<.0001)
    (c) Very large effect size: (Cohen's d=1.07)
  - *Parenting stress (measured by the PSI);*
    (a) **85.9%** improved
    (b) Statistically significant improvements from baseline to discharge (p<.0001)
    (c) Very large effect size: (Cohen's d=1.00)

- ***Parent-Child Relationship*** *among all parent-child dyads with problems at baseline (using CCIS):*
  (a) **79.9%** improved
  (b) Statistically significant improvements from baseline to discharge (p<.0002)
  (c) Very large effect size: (Cohen's d=1.12)

- **Community relationships**: All Child First sites have active Community Advisory Boards made of diverse groups of early childhood and young adult (parent) stakeholders. Cohort 1 has reported 73 referral sources since October 2011.

- **Referrals and families served**: Many more referrals are made to Child First than we are able to serve. Each site of two teams is only able to serve a maximum of 52 families per year. Therefore, families must be prioritized based on intensity of need. In addition, DCF cases are given priority. Frequently, families with lesser needs must be triaged to other, often less optimal, services. Other families are connected to interim support services but remain on our waiting list.
  - For Cohort 1, 1098 families were referred; and 820 families served from October 2011 - September 2013. For Cohort 2, 335 families were referred, and 211 families served from May 2012 – September 2013.
  - Over the past year, for Cohort 1, 78% of Child First families received their first visit within 2 weeks of being assigned the case; for Cohort 2, 90% of Child First families received their first visit within 2 weeks of being assigned the case.
  - As of 2/28/14, there were 140 children on waitlists.

Chairman REICHERT. Thank you. Great job.
Mr. Baron?

STATEMENT OF JON BARON, PRESIDENT, COALITION FOR EVIDENCE-BASED POLICY

Mr. BARON. Thank you, Chairman Reichert, Members of the Subcommittee. I appreciate the opportunity to testify about MIECHV on behalf of the Coalition for Evidence-Based Policy. The Coalition is a non-profit, non-partisan organization that has no affiliation with any programs or program models, and we have no financial interest in any of the policy ideas that we support.

We strongly support reauthorization of MIECHV. MIECHV represents an important new and bipartisan approach to social spending, in that it uses scientific evidence of effectiveness as a central factor in determining which activities to fund. As a result of this evidence-based approach, MIECHV is funding the large-scale implementation of some home visiting program models that, as I will discuss in a moment, have been rigorously demonstrated to produce major long-term improvement in the life outcomes of at-risk children and mothers.

MIECHV's evidence-based approach is bipartisan in origin. The Bush Administration's 2007 pilot, for example, directed HHS to "ensure that states use the funds to support home visiting program models that have been shown in well-designed, randomized, controlled trials to produce sizeable, sustained effects on important child outcomes, such as abuse and neglect." Randomized trials are considered the most rigorous evaluation method.

Similarly, the full MIECHV program, implemented under the Obama Administration, directs HHS to allocate at least 75 percent of the program's funds to "evidence-based home visiting models," and uses a slightly different but still rigorous standard to determine what qualifies as evidence-based.

Why does this matter? Because rigorous studies have found great variation in the effectiveness of different home visiting program models. At one end of the spectrum, for example, is the nurse-family partnership, which provides nurse home visitation services to low-income, first-time mothers. This model has been shown in three well-conducted randomized trials to produce major, long-term improvements in participants' life outcomes, such as a 20 to 50 percent decrease in child maltreatment and hospitalizations, and an 8 percent higher grade point average through elementary school for the most at-risk children. And, in one trial, a $13,000 reduction in families' use of welfare, food stamps, and Medicaid, that more than offset the program's cost.

At the other end of the effectiveness spectrum, for example, is the Comprehensive Child Development Program, which was a 1990s HHS home visiting program in which trained para-professionals provided home visits to families with young children, designed to teach parenting skills and connect families with community services. This was a well-intentioned and a well-implemented program. But when evaluated in a rigorous, randomized trial, it unfortunately was found to produce no effects on any of the hoped-for outcomes, including children's cognitive and social development, child health, and parents' economic self-sufficiency.

More generally, two recent, impartial reviews that examined which home visiting models had rigorous evidence of policy-important impacts on child maltreatment and other key outcomes found

several models to be effective or promising, including the two that we have heard from today, but a larger number to produce no meaningful effects. That pattern is not unique to home visitation. In almost every field in which rigorous trials are conducted, including medicine, business, and K–12 education, the effective interventions are almost always found to be outnumbered by interventions producing weak or no impacts.

What this means is that if MIECHV were to allocate funds the usual way, without regard to rigorous evidence, it would primarily be funding program models that produce no meaningful impacts, and might miss the opportunity to scale up the few effective models that can improve people's lives in an important way. As I describe in my written testimony, MIECHV's evidence-based design has succeeded, in part, in focusing funds on the subset of effective models and, for example, is funding national implementation of the Nurse-Family Partnership, as well as the scale-up of other effective evidence-based models, like Child First. We believe this is a very important achievement.

We also suggest a modest legislative revision in my written remarks to close a loophole that has allowed some of MIECHV's funding to go toward ineffective models. I would be happy to discuss this further, if of interest.

[The prepared statement of Mr. Baron follows:]

Coalition for Evidence-Based Policy
A NONPROFIT, NONPARTISAN ORGANIZATION

Statement of Jon Baron
President, Coalition for Evidence-Based Policy

House Committee on Ways and Means, Subcommittee on Human Resources
Hearing on the Maternal, Infant, and Early Childhood Home Visiting Program

April 2, 2014

Chairman Reichert, Ranking Member Doggett, and Members of the Ways and Means Subcommittee on Human Resources:

I appreciate the opportunity to testify on the Maternal, Infant, and Early Childhood Home Visiting Program (MIECHV) Program. As brief background, the Coalition for Evidence-Based Policy is a nonprofit, nonpartisan organization, established in 2001. We work with federal officials to increase the effectiveness of government social spending through rigorous evidence about "what works," and the core ideas we have advanced have helped shape evidence-based reforms enacted into law and policy during both the Bush and Obama Administrations. We are not affiliated with any programs or program models, and have no financial interest in any of the policy ideas we support, so we serve as a neutral, independent resource to policy officials on evidence-based programs. Our work is funded primarily by national philanthropic foundations.

Brief overview of my testimony

We strongly recommend reauthorization of MIECHV for the following reasons:

- *MIECHV represents an important, bipartisan departure from the usual approach to social spending: it uses scientific evidence of effectiveness as a main factor in determining which activities to fund.*
- *This evidence-based design is important because there is great variation in the effectiveness of different home visiting program activities ("models"). Rigorous studies have identified several models that produce major improvements in the lives of children and mothers – such as 20-50% reductions in child maltreatment – as well as a larger number of models that produce no meaningful effects.*
- *MIECHV's evidence-based design has succeeded, in part, in focusing funds on the subset of effective models; and, with a few modest revisions, it could do even better.*

I. MIECHV represents an important, bipartisan departure from the usual approach to social spending: it uses scientific evidence of effectiveness as a main factor in determining which activities to fund.

A. The usual approach: Most large social programs are set up as funding "faucets," providing monetary support to a diverse array of state/local activities with little regard to evidence about which are effective. This is true, for example, of federal programs like Head Start, Title I at the Department of Education, Foster Care, and the Workforce Investment Act. By design, such programs allocate large streams of money to state and local agencies – sometimes through a funding formula, sometimes through competition – to support a wide range of activities. Rigorous evidence about which activities are effective or ineffective has little say in which activities get funded.

B. **The problem with this approach: Activities that produce weak or no effects may get funded in perpetuity under these faucets, whereas highly effective activities may never be funded.**

C. **MIECHV is different: In both the Bush Administration's 2007 pilot, and the full program as implemented in the Obama Administration, rigorous evidence has been a central criterion used to allocate funds.** Specifically, the pilot for MIECHV, as proposed by President Bush and enacted by Congress in 2007, directed the Department of Health and Human Services (HHS) to "ensure that States use the funds to support [home visiting program] models that have been shown, in well-designed randomized controlled trials, to produce sizeable, sustained effects on important child outcomes such as abuse and neglect."[1] Well-designed randomized controlled trials are widely considered the strongest scientific method for evaluating the effectiveness of a program or project.

Similarly, the full MIECHV program, as proposed by President Obama and enacted by Congress in 2010, directs HHS to allocate at least 75 percent of the program's funds to "evidence-based" home visiting models. The full program uses a slightly different, but still rigorous, standard to determine what qualifies as evidence based. It also allows up to 25 percent of the funds to support the implementation of promising new home visiting models, coupled with a requirement for a rigorous evaluation to determine whether they really work. If found effective, these new models can qualify as evidence based, thereby building the number of proven models over time that are eligible for the larger funding amounts.

II. **Why it matters: Rigorous studies have identified several home visiting program models that are highly effective, as well as a larger number that are not effective.**

Rigorous evaluations, by measuring program models' true effect on objectively important outcomes such as child maltreatment rates, children's cognitive/educational development, and family income, are able to distinguish those that produce sizable effects from those that do not.

A. **Home visiting models found highly effective in rigorous evaluations include:**

1. **Nurse-Family Partnership: Rigorously shown to reduce child maltreatment by 20-50% and, for the most at-risk children, improve educational outcomes (e.g., 8% higher GPA).**

The Nurse-Family Partnership (NFP) is a nurse home visitation program for low-income, first-time mothers. NFP has been shown in three well-conducted randomized controlled trials to produce major, long-term improvements in participants' life outcomes, such as: (i) 20-50% reductions in child abuse/neglect and injuries; (ii) 10-20% reductions in mothers' subsequent births during their late teens and early twenties; and (iii) sizable improvements in cognitive and educational outcomes for children of the most at-risk mothers (e.g., 8% higher reading and math grade point averages in grade 1-6).

In addition to these benefits, recently-published reports from the ongoing trial in Memphis, Tennessee show, 12 years after the women gave birth, a $1,113 reduction in annual government spending per woman on welfare, food stamps, and Medicaid during the 12 years. As a result, the total discounted government savings over the 12 years ($13,350) more than offset the program's cost ($12,493).[2]

2. **Child FIRST: Rigorously shown to reduce suspected child maltreatment by 33% and to reduce early childhood conduct and development problems by 40-70%.**

Child FIRST (Child and Family Interagency Resource, Support, and Training) is a home visitation program for low-income families with young children at high risk of emotional, behavioral, or developmental problems, or child maltreatment. Families are visited in their homes by a trained clinical team consisting of a master's level developmental/ mental health clinician, and a care coordinator.

Child FIRST has been evaluated in a well-conducted randomized controlled trial with a sample of 157 families, carried out in Bridgeport, Connecticut. At the one-year follow-up, the study found 40-70% reductions in serious levels of (i) child conduct and language development problems, and (ii) mothers' psychological distress. At the three-year follow-up, the study found a 33% reduction in families' involvement with child protective services (CPS) for possible child maltreatment.

B. Such examples of effectiveness are a subset that have emerged from testing a larger pool; some other rigorously-evaluated home visiting models have been found to produce few or no effects.

1. **Example: HHS's Comprehensive Child Development Program – a 1990s paraprofessional home visiting program found to produce no meaningful effects on participants' lives.** In this program, trained paraprofessionals provided home visits to families with young children, designed to teach parenting skills and connect families with community services. HHS sponsored a large randomized controlled trial of the program, with a sample of 4410 families at 21 projects sites. At the five-year follow-up, the study found the program was well-implemented, yet unfortunately produced no effects on the hoped-for outcomes, including (i) children's cognitive and social development, (ii) child health, and (iii) parents' economic self-sufficiency.[3]

2. **More generally: Two recent, impartial reviews of the home visiting evidence found several models to be effective or promising, but a larger number to produce no important effects.** One of the reviews, conducted by our organization, examined home visiting studies identified by HHS as high quality randomized controlled trials, to see whether these studies found statistically-significant effects that were of policy or practical importance. The review found three models whose evidence provided "strong" or "medium" confidence that the model produced important improvements in participants' lives, and four others whose evidence provided "low" confidence.[4]

   These findings are consistent with a separate 2009 evidence review by MacMillan et. al., published in *The Lancet*, which found that: "Despite the promotion of a broad range of early childhood home-visiting programmes, most of these have not been shown to reduce physical abuse and neglect when assessed using [randomized controlled trials] .... Two programmes, the Nurse-Family Partnership developed in the USA and the Early Start programme in New Zealand have, however, shown significant benefits.[5]

3. **This pattern, in which only a minority of rigorously-evaluated approaches are found effective, is not unique to home visitation but occurs in most fields where rigorous trials are conducted**, such as medicine, business, K-12 education, and employment/training policy.[6]

C. Thus, if MIECHV were to allocate its funds the usual way – without regard to rigorous evidence – it would likely produce only weak effects, because the impact from the effective models that are funded would likely be diluted out by the lack of impact from the majority of models.

III. MIECHV's evidence-based design has succeeded, in part, in focusing funds on the subset of effective models; and, with a few modest revisions, it could do even better.

A. As an example of MIECHV's evidence focus: roughly two-thirds of its 2013 grant awards are funding implementation of NFP – the model with the strongest evidence of effectiveness, as described above. Another model – Healthy Families America, which has a weaker evidence base – is also being funded in about two-thirds of the grants.[7] (The fraction of MIECHV funding going toward NFP is likely to be lower than two-thirds since the large majority of grantees using NFP are also implementing other models.)

B. We believe this is a major achievement and, based on the evidence cited above, likely to produce important improvements in the lives of thousands of at-risk children and mothers. To confirm whether such effects occur, HHS has commissioned a large randomized evaluation of NFP and three other home visiting models being widely implemented under MIECHV. The study will be able to confirm whether NFP continues to produce the sizable impacts found in prior research; it will also determine whether the other models are able to achieve such impacts.

C. To further strengthen MIECHV's evidence focus, we recommend modest revisions in the statute's standard for determining whether a model is "evidence based." For example, the current standard, as set out in the authorizing statute and implemented by HHS, focuses on whether rigorous evaluations have found that the model produced *statistically-significant* effects, but not on whether these effects have *policy or practical importance*. This has opened a loophole, allowing several models to qualify as evidence based solely on the basis of statistically-significant effects, even if those effects were (i) on trivial outcomes; (ii) so small in size as to be of little practical importance; or (iii) likely to be chance findings (e.g., because the studies measured a large number of outcomes).

As an illustrative examples:

- MIECHV identified the Healthy Steps home visiting model as "evidence based" based on very small, short-term effects, such as a statistically-significant increase in the percent of mothers bringing their child for a doctor visit at one month of age from 95% (for the control group), to 97% (for the treatment group). The effects, found in a well-conducted randomized trial, reached statistical significance only because the trial had a very large sample. Meanwhile, the trial found no effects on any of the more final, policy-important outcomes that it measured (e.g., child behavior, development, social skills, and health/safety at age 5-6).[8]

- MIECHV identified the Parents as Teachers home visiting model as "evidence-based" based on four randomized trials that, as described in HHS's evidence review, measured a total of 208 outcomes and found (i) 5 statistically-significant positive effects (e.g., on child competence in playing with a new toy); and (ii) 6 statistically-significant adverse effects (e.g., on mothers' acceptance of child behavior).[9] Such effects – both the positive and adverse – could easily have appeared by chance given the large number of outcomes measured.[10] Thus, a reasonable interpretation of these findings is that the program produced no important effects one way or the other.

We believe that modest revisions to MIECHV's evidence standard could close this loophole and strengthen MIECHV's focus on models rigorously shown to produce important improvements in participants' lives. As one possible approach, MIECHV might borrow elements of the evidence standard used in the Department of Education's evidence-based Investing in Innovation program.

That program requires evidence from scientifically rigorous studies that the program model has "*a statistically significant, substantial, and important effect on improving student achievement or student growth, closing achievement gaps, decreasing dropout rates, increasing high school graduation rates, or increasing college enrollment and completion rates.*" A similar standard could be used in MIECHV, with appropriate adaptations (including a different set of policy-important outcome measures tailored to home visiting as opposed to K-12 education).

IV. Conclusion: We strongly support the reauthorization of MIECHV, and would welcome an opportunity to work with the Committee on steps, such as the above, to further strengthen the program as the reauthorization process goes forward.

References

[1] Public Law 110-161, and accompanying H. Rept. 110-424.

[2] A summary of the evidence on NFP, including citations to the original study reports, is linked here.

[3] Robert G. St. Pierre and Jean I. Layzer, "Using Home Visits for Multiple Purposes: The Comprehensive Child Development Program," The Future of Children, vol. 9, no. 1, spring/summer 1999, p. 134-151, linked here.

[4] Coalition for Evidence-Based Policy, *HHS's Home Visiting Program: Which Program Models Identified by HHS As "Evidence-Based" Are Most Likely To Produce Important Improvements in Lives of Children/Parents?*, 2011, linked here.

[5] Harriet L. MacMillan et. al., "Interventions To Prevent Child Maltreatment and Associated Impairment," *The Lancet*, vol. 373, January 17, 2009, pp. 250-266, linked here.

[6] Coalition for Evidence-Based Policy, *Practical Evaluation Strategies for Building a Body of Proven-Effective Social Programs: Suggestions for Research and Program Funders*, 2013, p. 1, linked here.

[7] This is based on our review of abstracts of the 2013 MIECHV grants, posted here on MIECHV's website.

[8] Minkovitz, C., Strobino, D., Hughart, N., Scharfstein, D., Guyer, B., & Healthy Steps Evaluation Team (2001). Early effects of the Healthy Steps for Young Children Program. *Archives of Pediatrics & Adolescent Medicine, 155*(4), 470–479. Guyer, B., Barth, M., Bishai, D., Caughy, M., Clark, B., Burkom, D., Tang, C. (2003). The Healthy Steps for Young Children Program National Evaluation. Baltimore: Women's and Children's Health Policy Center, Department of Population and Family Health Sciences, Johns Hopkins Bloomberg School of Public Health. Minkovitz, C. S., Strobino, D., Mistry, K. B., Scharfstein, D. O., Grason, H., Hou, W., Guyer, B. (2007). Healthy Steps for Young Children: Sustained results at 5.5 years. *Pediatrics, 120*(3), 658–668.

[9] Wagner, M., Cameto, R., & Gerlach-Downie, S. (1996). Intervention in support of adolescent parents and their children: A final report on the Teen Parents as Teachers Demonstration. Menlo Park, CA: SRI International. Wagner, M., Clayton, S., Gerlach-Downie, S., & McElroy, M. (1999). An evaluation of the northern California Parents as Teachers demonstration. Menlo Park, CA: SRI International. Wagner, M., & Spiker, D. (2001). Experiences and outcomes for children and families: Multisite Parents as Teachers evaluation. Menlo Park, CA: SRI International. Drotar, D., Robinson, J., Jeavons, L., & Lester Kirchner, H. (2009). A randomized, controlled evaluation of early intervention: The Born to Learn curriculum. Child: Care, Health & Development, 35(5), 643–649.

[10] By design, each test for statistical significance has a 1 in 20 chance of giving a false positive answer – i.e., of finding a statistically-significant positive effect that is due to chance rather than a true program impact. Since the study measured 208 outcomes, it would be expected to produce approximately 10 such chance findings on average.

Chairman REICHERT. Thank you, Mr. Baron.
Ms. Kilburn, you are recognized for five minutes.

STATEMENT OF REBECCA KILBURN, SENIOR ECONOMIST, RAND CORPORATION

Ms. KILBURN. Chairman Reichert, Ranking Member Doggett, and Members of the Subcommittee, thank you for the opportunity to testify today about the MIECHV program. My name is Rebecca Kilburn, and I am a senior economist at the RAND Corporation. My testimony will draw upon a 15-year program of research performed at RAND by me and my colleagues.

We are here today to discuss what we know about whether the MIECHV program improves outcomes for children and their parents. The Federal Government has sponsored a rigorous study of the effects of MIECHV, but initial findings from that study will not be available until next year. Absent the results of that study, today I will describe currently available research that informs MIECHV.

I am going to discuss two ways that existing research findings inform MIECHV. First, I am going to describe research related to the rationale for MIECHV. And, second, I am going to make recommendations regarding research-supported features of MIECHV that raise the likelihood of it achieving its desired objectives.

First, as you have heard, rigorous evaluations have demonstrated that a diverse set of home visiting models can improve a spectrum of outcomes for children and parents. Programs have been able to improve outcomes in the short run and the long run, and some, but not all, evidence-based programs have found that programs generate government savings that more than outweigh the costs. In other words, a growing research base has identified evidence-based home visiting models, and supports the theory of change underlying MIECHV: that scaling up home visiting to large numbers of at-risk families has the potential to improve outcomes for children and parents; improve population level outcomes, such as reducing rates of low birthweight or child maltreatment; and these, in turn, should save government money in the long run.

The primary contribution of MIECHV is to test the idea that broadly scaling up home visiting can transform our approach to human services.

Having a research-supported rationale does not imply that an initiative will necessarily be effective. The initiative must be well structured and well implemented. I will now discuss design features of MIECHV that research indicates will raise the likelihood of improving outcomes for at-risk families.

Lawmakers should preserve these three existing features of MIECHV. First, continuing to concentrate MIECHV funding on evidence-based models will make the chances greater that MIECHV funds will have their intended impact. Second, drawbacks to funding exclusively evidence-based models are that it could stifle innovation and prevent us from discovering models that may be effective, but have not been evaluated.

A second feature to preserve are mechanisms in MIECHV that circumvent these drawbacks. One is allowing 25 percent of the funding to be used for promising models that are being evaluated, and the other is funding the MIECHV competitive development grants, which allow states to apply for funding, to pilot test, and evaluate innovations in home visiting.

Third, in order to achieve the best outcomes for children and families, it is not only necessary to deliver programs that work, but it is also necessary to implement them well. The third feature of MIECHV that should be preserved is the implementation supports it provides states and other grantees. These include training and professional development, plus technical assistance that helps states engage in best practices in evidence-based program implementation. These best practices include conducting needs assessments, identifying goals, collecting and reporting outcome data, and engaging in continuous quality improvement.

At the same time that the federal home visiting program has expanded, states have also been increasing their funding for home visiting. The MIECHV program is partnering with states to build state home visiting infrastructure, with the MIECHV program leading the drive to integrate best practices into home visiting implementation.

To conclude, there are also a couple of ways that MIECHV could be strengthened to further raise the chances of achieving the best outcomes for children and families. One is that while 25 percent of MIECHV funds can be used to deliver promising home visiting models, MIECHV currently does not support a path by which potentially effective models could undergo evaluation that would lead them to be designated as evidence-based. The types of evaluations that the MIECHV evidence standards require often cost upwards of $1 million, representing a substantial barrier to discovering the next evidence-based model.

Second, MIECHV can better harness the power of performance-based accountability, which links performance measures to funding or targeted technical assistance. MIECHV currently requires states to collect benchmarks related to family outcomes, which is a cutting-edge aspect of the program. While monitoring outcomes is desirable, there may be opportunities to better monitor states' organizational performance, such as number of families served, and, importantly, for MIECHV to more closely link performance measures to consequences or targeted support to generate improvement.

Thank you for allowing me to appear before you today, and I look forward to taking your questions.

[The prepared statement of Ms. Kilburn follows:]

Testimony

Evidence on Home Visiting and Suggestions for Implementing Evidence-Based Home Visiting Through MIECHV

M. Rebecca Kilburn

RAND Office of External Affairs

CT-407

April 2014

Testimony presented before the House Ways and Means Committee, Subcommittee on Human Resources on April 2, 2014

Published 2014 by the RAND Corporation
1776 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138
1200 South Hayes Street, Arlington, VA 22202-5050
4570 Fifth Avenue, Suite 600, Pittsburgh, PA 15213-2665
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Email: order@rand.org

M. Rebecca Kilburn[1]
The RAND Corporation

Evidence on Home Visiting and Suggestions for Implementing Evidence-Based Home Visiting Through MIECHV[2]

Before the Committee on Ways and Means
Subcommittee on Human Resources
United States House of Representatives

April 2, 2014

Chairman Reichert, Ranking Member Doggett, and members of the Subcommittee, thank you for the opportunity to testify before you today about the Federal Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program. My name is Rebecca Kilburn, and I am a Senior Economist at the RAND Corporation. My testimony will draw upon research performed at the RAND Corporation by me, Lynn Karoly, Jill Cannon, Teryn Mattox, Sarah Hunter, Matt Chinman, and others. This research agenda includes a 15-year program of conducting cost-benefit analysis of home visiting programs, reviewing home visiting evaluations as part of evidence-based program platforms in the U.S. and the European Union, developing an implementation manual for evidence-based home visiting, conducting an experiment for a program that meets the MIECHV "promising" standard, and undertaking evaluations for a Tribal MIECHV project and a state MIECHV Development Grant.

Evidence on the Effectiveness of Home Visiting

I am going to briefly summarize results, including cost-benefit analysis, from a body of RAND's home visiting research, as well as other relevant sources. RAND research synthesizing home visiting evaluations has identified a few lessons from this body of evidence.

1. Rigorous evaluations have demonstrated that a diverse set of home visiting models can improve outcomes for children and parents. Individual home visiting models are designed to address different outcomes issues like child maltreatment, parents' mental health, or children's physical disabilities (Mattox et al., 2013, Karoly et al., 2005). The MIECHV program has designated 14 home visiting models as evidence-based. As shown in Table 1, these models

[1] The opinions and conclusions expressed in this testimony are the author's alone and should not be interpreted as representing those of RAND or any of the sponsors of its research. This product is part of the RAND Corporation testimony series. RAND testimonies record testimony presented by RAND associates to federal, state, or local legislative committees; government-appointed commissions and panels; and private review and oversight bodies. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.
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improve outcomes for children and parents in different domains ranging from child development to family violence (U.S. Department of Health and Human Services, undated). Reflecting the diversity in goals, these models serve families with children of different ages or beginning when the mother is pregnant. The differences in target populations are shown below in Table 2, which lists the age of the child at enrollment and the target population for the same 14 home visiting models. Given the differing goals and spectrum of types of families served, it is not surprising that the home visiting models have different features, such as employing different types of staff and delivering different curricula and services. When you go to a health care provider for allergies versus a compound fracture, you would not expect them to provide the same treatment for these two conditions, nor would you want providers with the same training to treat them. Home visiting is no different.

Furthermore, the available workforce and other local contextual factors may play a role in determining which home visiting model is appropriate for a particular area. A program that employs mental health clinicians as home visitors will not be feasible in an area lacking a pool of such clinicians, and a program lacking parent education materials in Mandarin may be impractical in areas with large ethnic Chinese populations.

Current MIECHV legislation allows states to determine their areas of greatest needs—such as infants with developmental disabilities or parents with substance abuse problems—and also to take into account local context and resources—such as the available workforce or family demographics. States can then deploy evidence-based home visiting models tailored to meet their needs and take advantage of available resources.

2. Rather than specifying the features that home visiting programs should have, it is preferable that programs follow fidelity to evidence-based models. We can't make generalizations about the program features that are associated with home visiting effectiveness. We find that some less intensive programs are effective as well as some very intensive programs. For example, the Healthy Steps model delivers between two and five home visits, while Home Instruction for Parents of Preschool Youngsters provides 30 visits a year for two or three years. We see that models that have been scaled up across the country have positive effects. An example of this is Nurse Family Partnership, which is being implemented in 44 states and has a strong national service office. We also find that a few less well known models that have only been implemented in one local area are effective. An example of one of these models is Child First, which has only been implemented in Connecticut (see U.S. Department of Health and Human Services, undated, for more information on these models). However, we do know that in order to replicate the results of evidence-based models, it is necessary to implement the model with

fidelity (Daro, 2010). Hence, rather than specifying features that all home visiting programs must include, the best outcomes for families can be achieved by instead requiring that evidence-based models be implemented with fidelity and that federal requirements do not lead states to sacrifice model fidelity.

Table 1: MIECHV Evidence-Based Home Visiting Models and Outcome Domains Shown to Be Improved

Home Visiting Model	Outcome Domain							
	Child development and school readiness	Child health	Family economic self-sufficiency	Linkages and referrals	Maternal health	Positive parenting practices	Child maltreatment	Juvenile delinquency, crime, family violence
Child FIRST	✓			✓	✓		✓	
Early Head Start—Home Visiting	✓	✓	✓		✓	✓	✓	
Early Intervention Program for Adolescent Mothers		✓	✓					
Early Start	✓	✓				✓	✓	
Family Check-Up	✓				✓	✓		
Healthy Families America (HFA)	✓	✓	✓	✓	✓	✓	✓	✓
Healthy Steps		✓				✓		
Home Instruction for Parents of Preschool Youngsters (HIPPY)	✓					✓		
Maternal Early Childhood Sustained Home Visiting Program (MESCH)		✓			✓	✓		
Nurse Family Partnership (NFP)	✓	✓	✓		✓	✓	✓	✓
Oklahoma's Community-Based Family Resource and Support (CBFRS) Program					✓	✓		
Parents as Teachers (PAT)	✓					✓		
Play and Learning Strategies (PALS) – Infant	✓					✓		
Project 12 Ways/SafeCare (Augmented)				✓			✓	

Sources: Updated version of Tip 3.1 in Mattox et al., 2013, and U.S. Department of Health and Human Services, undated.

Table 2: MIECHV Evidence-Based Home Visiting Models and Age of Child at Enrollment and Target Population

Home visiting program	Age of child at enrollment	Target population
Child FIRST	Children birth to age 6	Families with children with emotional, behavioral, or developmental concerns; families at high risk for abuse and neglect
Early Head Start—Home Visiting	Pregnant women; children from birth through age 3	Families below federal poverty level; families eligible for Part C services under the Individuals with Disabilities Education Act
Early Intervention Program for Adolescent Mothers	Pregnant women	Adolescent mothers
Early Start	Pregnant women; children from birth through age 5	At-risk families
Family Check-Up	Children ages 2 to 7	Families with multiple risk factors
Healthy Families America (HFA)	Pregnant women; newborns	Target population determined by sites
Healthy Steps	Children birth through age 3	Any family
Home Instruction for Parents of Preschool Youngsters (HIPPY)	Children ages 3 to 5	Families whose parents lack confidence in their ability to instruct their children
Maternal Early Childhood Sustained Home Visiting Program (MESCH)	Children from birth through age 1	Disadvantaged expectant mothers at risk of adverse maternal and/or child health and development outcomes
Nurse Family Partnership (NFP)	Pregnant women; children from birth through age 2 months	First-time, low-income parents
Oklahoma's Community-Based Family Resource and Support (CBFRS) Program	Pregnant women	First-time mothers living in rural counties
Parents as Teachers (PAT)	Pregnant women; children from birth through age 5	Target population determined by sites
Play and Learning Strategies (PALS) - Infant	Children 5 months to 1 year and their families	Target population determined by sites
Project 12 Ways/SafeCare (Augmented)	Parents with children ages birth to 5	Families with a history of child maltreatment or risk factors for child maltreatment

Sources: Updated version of Tip 3.2 in Mattox et al., 2013, and U.S. Department of Health and Human Services, undated.

3. We don't yet know whether large-scale implementation of home visiting will improve population level well-being. Part of the rationale for home visiting is that since evidence indicates it can prevent negative outcomes later in children's lives, it represents an opportunity for society to shift from a treatment paradigm to a prevention paradigm. Evidence suggests that in addition to improving the child and family outcomes described above, home visiting has the potential to reduce taxpayer costs in the long run by reducing future spending such as emergency room visits, special education, or foster care. The hypothesis that emerges from this line of research is that scaling up home visiting across the country should yield improvements in population-level outcomes, and as a result we ought to be able to measure ensuing changes for entire communities in outcomes such as emergency room visits or child maltreatment. Despite the large growth in home visiting funding at the national and state levels, not enough families are currently served to be able to detect impacts in population level data. That is, while individual programs might be effective and improve outcomes of the families they serve, they typically serve such a small fraction of families in the community that the resulting family improvements would not move the needle on *community*-level indicators such as rates of low birth weight or reductions in post-partum depression. An exception is a recent study in Durham, North Carolina, that found that offering a brief home visiting intervention (3-7 contacts by the time the child was 12 weeks old) to all children born in the community reduced emergency medical care use by 50 percent in children's first year of life, and also improved parenting behaviors and connected families to more intensive services when needed (Dodge et al., 2013).

4. There is some evidence that society as a whole can yield returns from home visiting investments. There are fewer cost-benefit analyses than there are rigorous impact evaluations of home visiting models. This is because precise data on costs have not been collected for all the models, and because many home visiting benefits are difficult to monetize. We have well-established methods for valuing some of the outcomes that home visiting improves, like reductions in emergency room visits, but we do not have well-developed methods for valuing other outcomes that home visiting affects—such as improvements in positive parenting practices (Karoly, 2012). Due to these limitations, only 5 of the 14 models that MIECHV lists as evidence-based have been examined using cost-benefit analysis (Karoly et al., 2005, Washington State Institute for Public Policy, 2014).

For three of the five models, the estimated benefits exceed the costs, because the home visiting programs reduced future government spending in areas like emergency room visits and child protective services costs and increased tax revenues from parents' earnings. It is difficult to

compare the cost-benefit results across the five models due to differences in the length of follow-up in the studies and because their evaluations collected different outcomes.

In sum, while some cost-benefit analyses show that home visiting programs can generate a positive return, data limitations and the difficulty in valuing some home visiting outcomes limit our ability to draw conclusions about home visiting return on investment.

5. The jury is still out on the effectiveness of the MIECHV program per se. Today's hearing is not focusing on individual home visiting programs, but rather is centered on the Federal MIECHV effort that makes grants for such individual programs and the evidence we currently have about its overall effectiveness. No rigorous evidence currently exists regarding the effectiveness of the MIECHV home visiting effort per se. However, the Administration for Children and Families and the Health Resources and Services Administration have sponsored a well-designed study that will report to Congress next year and will shed light on the effects of MIECHV-funded programs. The study examines whether MIECHV-funded home visiting programs improved a wide range of outcomes, conducts cost-benefit analysis, and assesses whether particular program features or strategies are associated with better outcomes (for more information on this evaluation, see MDRC, undated).

How MIECHV Raises the Likelihood of Effectiveness

While we will not have the first findings from the national MIECHV evaluation until next year, at this point, we can point to some features of MIECHV that raise the likelihood that MIECHV will make the anticipated difference and produce the best results possible for at-risk families.

The MIECHV legislation requires that states use the majority of their MIECHV funding to support evidence-based home visiting models. By concentrating 75 percent of the MIECHV funding for direct services on models that have already been proven to improve outcomes for children and families, the chances are greater that MIECHV funds will have their intended impact (Mattox et al., 2013).

A potential drawback to funding exclusively evidence-based models is that it could stifle innovation and prevent us from uncovering existing models that may be effective but have not been adequately evaluated. The MIECHV program circumvents these potential drawbacks in two ways. One is that it allows the other 25 percent of the MIECHV funding for direct services to be used for "promising" models that are currently being evaluated using rigorous methods that meet the MIECHV evidence standards. The second is that the legislation includes a different funding

stream that facilitates the discovery of new evidence about home visiting implementation and outcomes. This is the MIECHV competitive development grants funding, which allows states to apply for funding to pilot test and evaluate innovations in home visiting.

However, the current MIECHV program does not include a path by which unevaluated home visiting models could undergo evaluation that may lead them to be designated evidence-based according to the MIECHV evidence criteria. For example, while MIECHV funds can be used to deliver "promising" home visiting models, there is no MIECHV funding to evaluate "promising" models. The types of randomized trial evaluations–i.e. those that randomly select certain families to receive and others to not receive services—that the MIECHV evidence standards require generally cost upwards of a million dollars, representing a substantial barrier to the discovery of the next evidence-based model. The MIECHV supports for innovation and discovery of new evidence could be strengthened by better facilitating the evaluation of promising and other potentially effective models.

Achieving improved outcomes is not guaranteed, however, with just the selection and provision of an evidence-based program, but rather the delivery of an effective model is only one of two requirements for realizing the hoped-for outcomes. It is not only necessary to deliver programs that work, but it is also necessary to *implement them well*, as represented by this formula proposed by Fixsen and colleagues (Fixsen et al., 2013):

$$\text{Evidence-based programs} \times \text{Effective implementation} = \text{Improved outcomes}$$

The MIECHV effort recognizes the importance of good implementation and complements its evidence-based program requirements with a number of implementation supports and requirements to further raise the likelihood that states realize the potential of home visiting. These include training and professional development in a variety of formats such as webinars, an interactive website portal, and in-person consulting and training. They have also contracted with a technical assistance team that provides guidance on data collection, outcomes measurement, and other evaluation-related activities. The MIECHV funding to states requires that the states engage in some best practices in evidence-based program implementation, such as conducting needs assessments, identifying goals, collecting and reporting outcome data, and engaging in continuous quality improvement (Mattox et al., 2013). RAND research has shown that mastering these best practices in evidence-based program implementation improves the ability of program staff to deliver high-quality programs and ultimately improves the overall quality of the programs (Chinman, et al., 2009; Chinman et al., 2013).

The MIECHV home visiting implementation support is particularly valuable for states that are implementing those home visiting models that may lack a well-developed national office that would otherwise provide this type of support. The majority of the 14 evidence-based home visiting programs are in this category. In addition to increasing the effectiveness of the federal MIECHV funds, increasing state home visiting capacity has spillovers that benefit states' other home visiting programs. At the same time that the Administration for Children and Families and the Health Resources and Services Administration have rolled out MIECHV, most states have also dramatically increased their funding for home visiting (National Conference of State Legislatures, 2013), and so many state home visiting systems have evolved in tandem with the Federal MIECHV effort. State and federally funded programs have been able to collaborate on developing home visiting data systems and professional development for a growing home visiting workforce, and realized other efficiencies in building home visiting infrastructure.

In order to further raise the likelihood that states' MIECHV-funded home visiting programs produce the best results possible, consideration should be given to whether ongoing funding to particular states should be tied more closely to the state's implementation performance (the same would apply to tribal and other grantees). This refers to organizational performance measures like number of families served, open positions filled, or training received, and this type of performance is different than the MIECHV benchmark measures, which are output measures focused on family outcomes. It is desirable that MIECHV continues to monitor output measures, which is a strength of the initiative. However, research demonstrates that monitoring organizational performance measures and linking them to incentives in performance-based accountability systems is also an effective component of improving public services (Stecher et al., 2010, Camm and Stecher, 2010). While MIECHV funds come with many specifications and requirements, it is not clear whether there have been consequences or additional support to generate improvement when states' organizational performance has not met expectations (e.g.—the project served fewer families than specified in the proposal and award), and this represents a potential area of opportunity for future MIECHV implementation.

Summary

To summarize, we can draw five lessons from existing rigorous research regarding evidence of home visiting effectiveness:

1) Rigorous evaluations have shown that a diverse set of home visiting models are effective, and these models vary in the outcomes they improve, the families they target, and the curricula and services they deliver.

2) The current evidence base does not identify a particular set of features that make home visiting effective. The evidence-based programs differ in intensity, scale of operation, and many other features.
3) Home visiting services generally have not served large enough numbers of eligible families to enable us to measure whether delivering home visiting on a large scale can improve population level outcomes, like low birth weight rates or child maltreatment rates.
4) There is limited evidence at this time that home visiting programs generate returns to society that more than offset their costs, and more definitive cost-benefit findings will require cost-benefit analysis for more models and developing methods for monetizing more of the benefits from home visiting.
5) A well-designed evaluation of the MIECHV program is underway and will provide information on *what* outcomes the program improves and *how* home visiting can be most effective. The first results of this evaluation will be reported to Congress in 2015.

Absent the type of evidence that the MIECHV evaluation will provide, lawmakers can preserve features of the MIECHV program that raise the likelihood that it achieves its intended impacts. One of these features is allowing states to select models that fit their needs and local contexts. MIECHV also encourages states to implement the chosen models with fidelity to the model rather than requiring that all models adapt particular features. Another attractive feature of MIECHV is continuing to prioritize evidence-based programs while at the same time allowing for the testing of innovations and discovery of new evidence-based models. An additional feature is to continue to support and develop effective implementation of evidence-based models among state grantees to further promote the promise of the MIECHV program. There are also some untapped opportunities to further strengthen the ability of the MIECHV program to capture the value of evidence-based home visiting models. This includes supporting an avenue by which "promising" and other potentially effective models could be evaluated according to the MIECHV evidence standards. Also, MIECHV could further promote quality implementation by tapping the benefits of performance-based accountability to more closely link continued funding to the measured organizational performance of states, and also to target technical assistance to states based on performance.

Mr. Chairman and Ranking Member, members of the Subcommittee, thank you for allowing me to appear before you today on this important subject. I look forward to taking your questions.

References

Camm, Frank, and Brian M. Stecher, *Analyzing the Operation of Performance-Based Accountability Systems for Public Services*, Santa Monica, Calif.: RAND Corporation, TR-853, 2010. As of March 31, 2014:
http://www.rand.org/pubs/technical_reports/TR853.html

Chinman, Matthew, Joie Acosta, Patricia Ebener, Q Burkhart, Patrick Malone, Susan M. Paddock, Michael Clifford, Maryann Corsello, Tim Duffey, Sarah Hunter, Margaret Jones, Michel Lahti, Andrea Phillips, Susan Savell, Peter C. Scales, and Nancy Tellett-Royce, "Intervening with Practitioners to Improve the Quality of Prevention: One-Year Findings from a Randomized Trial of Assets—Getting To Outcomes," *Journal of Primary Prevention*, Vol. 34, No. 3, June 2013, pp. 173–191.

Chinman, Matthew, Beverly Tremain, Pamela Imm, and Abraham Wandersman, "Strengthening Prevention Performance Using Technology: A Formative Evaluation of interactive Getting To Outcomes," *American Journal of Orthopsychiatry*, Vol. 79, No. 4, October 2009, pp. 469–481.

Daro, Deborah, "Replicating Evidence-Based Home Visiting Models: A Framework for Assessing Fidelity," *Supporting Evidence-Based Home Visiting to Prevent Child Maltreatment*, EBHV Cross-Site Evaluation, Brief 3, Mathematica Policy Research Report, December 2010. As of March 31, 2014:
http://www.mathematica-mpr.com/publications/PDFs/earlychildhood/EBHV_brief3.pdf

Dodge, Kenneth A., W. Benjamin Goodman, Robert A. Murphy, Karen O'Donnell and Jeannine Sato, "Randomized Controlled Trial of Universal Postnatal Nurse Home Visiting: Impact on Emergency Care," *Pediatrics*, Vol. 132, Supplement 2, November 2013, pp. S140–S146. As of March 31, 2014:
http://www.durhamconnects.org/documents/Pediatrics-2013-Dodge-S140-6.pdf

Fixsen, Dean, Karen Blase, Allison Metz, and Melissa Van Dyke, 2013, "Statewide Implementation of Evidence-Based Programs," *Exceptional Children*, Vol. 79, No. 2, Winter 2013, pp. 213–230.

Karoly, Lynn A., "Toward Standardization of Benefit-Cost Analysis of Early Childhood Interventions," *Journal of Benefit-Cost Analysis*, Vol. 3, No. 1, January 2012, pp. 1–43.

Karoly, Lynn A., M. Rebecca Kilburn, and Jill S. Cannon, *Early Childhood Interventions: Proven Results, Future Promise*, Santa Monica, Calif.: RAND Corporation, MG-341-PNC, 2005. As of March 31, 2014:
http://www.rand.org/pubs/monographs/MG341.html

Mattox, Teryn, Sarah B. Hunter, M. Rebecca Kilburn, and Shelley H. Wiseman, *Getting To Outcomes® for Home Visiting: How to Plan, Implement, and Evaluate a Program in Your Community to Support Parents and Their Young Children*, Santa Monica, Calif.: RAND Corporation, TL-114-SNM, 2013. As of March 31, 2014:
http://www.rand.org/pubs/tools/TL114.html

MDRC, "Mother and Infant Home Visiting Program Evaluation (MIHOPE): Featured Content," undated. As of March 31, 2014:
http://www.mdrc.org/project/mother-and-infant-home-visiting-program-evaluation-mihope#featured_content

National Conference of State Legislatures, *Early Care and Education State Budget Actions FY2013*, August 2013. As of March 31, 2014:
http://www.ncsl.org/documents/cyf/ECE_BudgetReport_FY13.pdf

Stecher, Brian M., Frank Camm, Cheryl L. Damberg, Laura S. Hamilton, Kathleen J. Mullen, Christopher Nelson, Paul Sorensen, Martin Wachs, Allison Yoh, Gail L. Zellman, and Kristin J. Leuschner, *Toward a Culture of Consequences: Performance-Based Accountability Systems for Public Services*, Santa Monica, Calif.: RAND Corporation, MG-1019, 2010. As of March 31, 2014:
http://www.rand.org/pubs/monographs/MG1019.html

Washington State Institute for Public Policy, "Benefit-Cost Results," 2014. As of March 31, 2014:
http://www.wsipp.wa.gov/BenefitCost/Pdf/3/WSIPP_BenefitCost_Child-Welfare

U.S. Department of Health and Human Services, "Home Visiting Evidence of Effectiveness: Models," undated. As of March 30, 2014:
http://homvee.acf.hhs.gov/programs.aspx

Chairman REICHERT. Well, thank you very much for your testimony, Ms. Kilburn. Thank you all for your testimony. And we are going to go into the question phase now. We will just ask a few questions. It will be easy, don't worry about it.

[Laughter.]

Chairman REICHERT. So, I was a police officer for 33 years before I came to Congress. So I just look like I have been here for 40 years, but I have only been here 9. I received phone calls this past week from sheriffs, from police chiefs from Washington State, very much supportive of fighting crime, and investing in kids. We get it, because we know if we put the money up front, we are going to be saving a lot of money at the back end. And that is a hard thing, for people who legislate, to really see the long-term, and the long-term goal here. You all see it very clearly.

But we have heard about evidence-based, scientific—I think, Mr. Baron, you said scientific evidence and effectiveness to decide which programs to fund. And, Ms. Kilburn, you talked about design features in three points that you made about evidence-based models and funding for evaluation and implementation of supporting programs. And what I want to try and do is to tie together what you do with what is happening, where, as cops would say, where the rubber meets the road, where Ms. Towne and Ms. Sucilla are.

And, you know, what—because you may have never heard about implementation supports and things like that, where—no, I didn't think so. So you are down here, doing the work. How does—so this is for both of you—how does what you are doing and what you are going through, how does that get filtered up to the folks that are making those decisions and trying to figure out what is working and what is not working? What worked and—so, just real quickly, what worked in your case? What was the—you know, you touched on some of it.

Ms. SUCILLA. Sorry, I am trying to understand the question, I guess.

Chairman REICHERT. So you are working with Ms. TOWNE.

Ms. SUCILLA. Yes.

Chairman REICHERT. And the programs that you got involved in that she helped direct you to, what were those programs that you saw that really—kind of a light bulb went on as to this really is going to work? This program works, or that program. If you got sidetracked into a program that you thought, boy, this isn't going to work at all.

Ms. SUCILLA. [No response.]

Chairman REICHERT. You can help her, if you want to.

Ms. TOWNE. Are you asking about perhaps she participated in programs in addition to Nurse-Family Partnership?

Chairman REICHERT. Yes. I mean anything that—so she finally comes to you, and you give her places where she is going, and it is working. How does that get communicated to the administrators who are making some decisions as to, you know, what programs work, what programs don't work? It is evidence-based, right?

Ms. TOWNE. Correct.

Chairman REICHERT. So how does that evidence get moved up to, filtered up to——

Ms. TOWNE. Okay. So you are asking specifically about the data.

Chairman REICHERT. Yes.

Ms. TOWNE. Is that—okay, thank you. I was—okay. At visits at various time periods that are structured by the program. So, for in-

stance, in pregnancy, at 36 weeks, at birth, 6 months, 12 months, 2 years, we collect data from Sherene in the form of various questions that are then submitted to the University of Colorado for research purposes.

Chairman REICHERT. Okay.

Ms. TOWNE. Is that what you are——

Chairman REICHERT. Yes, yes, sure.

Ms. Towne [continuing]. Asking? Yes. For—as part of the curriculum and part of the model for Nurse-Family Partnership, they have outlined very specific questions and data they are collecting at different times throughout that two-and-a-half year period.

Chairman REICHERT. Okay.

Ms. TOWNE. And it is handled through the University of Colorado.

Chairman REICHERT. Do you ever feel like you are working in an area where—if a program that is not working, and you are able to give feedback data to the—to Denver that this isn't really working at the—you know, where the rubber meets the road sort of a——

Ms. TOWNE. [No response.]

Chairman REICHERT. No?

Ms. TOWNE. I don't see that, as a home visitor, because the beauty of the Nurse-Family Partnership program, again, is that it is client-centered. So it is not necessarily myself dictating what we discuss throughout each visit. It is really looking at the guidelines of suggested topics, but allowing Sherene to choose what she feels would be most helpful.

Chairman REICHERT. Okay, you just hit on the answer, right there. She chooses.

Ms. TOWNE. She absolutely——

Chairman REICHERT. Yes.

Ms. TOWNE. Every visit—the way it works in my home visiting practice is at the end of every visit we look at what options are available to discuss at the next visit. And I guess "available" isn't maybe the right word. First, Sherene can choose. Maybe there is something on her mind that is really not a part of the guidelines, and that is okay.

Chairman REICHERT. Okay.

Ms. TOWNE. But she can also look at the guidelines and topics, and choose one of those.

Chairman REICHERT. Great. Thank you for your answer. Mr. Davis, you are recognized.

Mr. DAVIS. Thank you very much, Mr. Chairman. And let me thank all of our witnesses.

I have been tremendously impressed with all of your testimonies for a number of reasons. And one is that, for all of my life, I have been intimately involved with, associated with, know people personally, who could make use of this program and of these services. And since being in Congress for a decade, I have worked with Republican colleagues to advance a strong federal investment in home visiting.

This bipartisan effort drew on research and economic status documenting that investing in our youngest citizens yields high returns in the form of healthier children and families, and taxpayer

savings. The voluntary home visiting law was designed as an investment in evidence-based prevention.

In Illinois, 30 percent of children entering out of home care for the first time are under the age of 1, slightly higher than the national rate. In Chicago, roughly half of those babies enter before they are three months old. This pattern is generally true, nationwide. These statistics put into context the importance of home visiting, which focuses on strengthening children and families by supporting pregnant women and parents with young children.

The role of home visiting is particularly important, given the recent study reported in JAMA—that is the Journal of the American Medical Association—about an increase in infants' death, potentially due to the economy. Supporting young children and families is critical to preventing harm and strengthening children.

Mr. Chairman, I have got two documents I would like to submit for the record.

Chairman REICHERT. Without objection.

[The information follows: Mr. Davis 1, Mr. Davis 2]

[Member Submissions for the Record follows:]

Rep. Danny Davis 1

Governor's Office of
Early Childhood Development

160 N. LaSalle St., Suite N-100 • Chicago, IL 60601
P: 312.814.6312 • F: 312.814.0804
www2.illinois.gov/gov/OECD

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The Illinois Maternal and Infant Early Childhood Home Visiting Grant (MIECHV)

2013 Fact Sheet

MIECHV Year 2 Data
Reporting Period: October 1, 2012 to September 30, 2013
The data below is collected from a total of 46 Home visitors and 13 Doulas across 25 programs in 10 high risk communities in Illinois.

In Federal Fiscal Year 2013 (October 1, 2012 to September 30, 2013), Illinois MIECHV:

- Provided 13,050 home visits to 944 children birth to 5 years of age.
- Found the average age of primary guardians was between 22-24 years old but if a participant was pregnant she was more likely to be younger than the average.
- Had 50% of cases come into the program prenatally

The Year 2 MIECHV data shows that we are serving families that not only need home visiting services the most but have been proven to have the best outcomes from home visiting services. This is evidenced by the following demographics:

- *MIECHV is serving low income families* - 99% of families served by MIECHV are at 100% or less of the poverty line.
- *MIECHV is serving teen mothers and enrolling them prenatally* - 50% of mothers enrolled are enrolled prenatally and of those that are enrolled prenatally they are more likely to be a teenager.
- *MIECHV is serving families with parenting deficiencies* - the majority of families scored below the normal range on measures of parental support for child's learning and development, knowledge of child's development and child's developmental progress, parent-child relationship and parental stress.
- *MIECHV is serving parents with low educational achievement and high rates of unemployment* - 73% of MIECHV parents have a high school diploma or less and 72% are unemployed.

Even with the above risk factors in these families, the data is telling us that while they are in MIECHV home visiting services, there are favorable outcomes in the following areas:

- Child Abuse and Neglect: only 4% of MIECHV families had substantiated reports of child abuse or neglect.
- Child injuries requiring medical attention: only 3% of children obtain an injury that requires medical treatment
- Emergency room visits: only 12% of children and 8% of mothers visited the emergency while receiving home visiting services.
- Prenatal use of tobacco, alcohol, or drugs: 53% of mothers who enroll prenatally and identified as using tobacco, alcohol, or drugs decreased their use by 36 weeks pregnant.

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Testimonials from Illinois Home Visiting Families

A family enrolled in the program with a two-year-old child that was exhibiting severe speech delays and behavior problems. Although mom was taking her child to a family practitioner when she enrolled, she expressed to her home visitor, "I'm worried because she doesn't talk, and the doctor keeps telling me she'll be okay." The mother wanted to take the child to a pediatrician, which her home visitor helped identify and facilitate. The child was also referred to the Early Intervention program for further assessment. Since then, the child been receiving speech therapy and is making progress. She was eventually diagnosed with severe developmental delays and has been connected to specialists at the University of Illinois at Chicago for ongoing evaluation and treatment. *(Family Focus/ Nuestra Familia, Cicero)*

Our home visitor started working with a mother in December 2012. She was 22, expecting her first child, and had just moved home with her parents from out of state. She did not have a job or an income source, and was not linked to any community resources. When we first started working together, we focused on getting her basic needs covered. This included enrolling in the WIC program, getting her a medical card, finding a doctor for prenatal care, and lining up a pediatrician for after the baby is born. Once those basic needs were met, we started to focus on her other needs. This mom does have her GED, and would like to go back to school, but employment and income was a pressing need for her as well. Mom completed her taxes, filled out the FAFSA (Free Application for Federal Student Aid), and has things in order to start school in the fall. Mom delivered her baby boy in April. Initially, he struggled with jaundice and acid reflux, but Mom has done an excellent job of following his treatment and building a wonderful relationship with his doctor. Since the baby was born, she applied for TANF and LINK benefits, and is now waiting to hear back from DHS regarding her applications. For the time being, she has decided to focus on job searching and saving money for her own place. As the fall semester gets closer, she will make a final decision about school. She has already placed her name on a waiting list for income-based housing in our community. *(Rockford Public Schools, Rockford)*

"Being in this program really helped build me up on teaching my child as she develops and giving her challenges to help see what level my child is learning at. Without joining and getting the information on how to interact with my child, and gaining a stronger bond with these simple acts of play, I wouldn't know where I'd be. I enjoy being able to ask questions, and being asked questions about my child. It gives me comfort to know they want to help me keep track on how my child is developing, to give them the learning opportunity as they grow in the community." *(Lindsey (age 20) and Lacey (17 months), Elgin, School District U-46, Elgin)*

RESEARCH ARTICLES

Early Childhood Investments Substantially Boost Adult Health

Frances Campbell,[2] Gabriella Conti,[2] James J. Heckman,[2,4,5]* Seong Hyeok Moon,[4] Rodrigo Pinto,[3] Elizabeth Pungello,[2] Yi Pan[3]

High-quality early childhood programs have been shown to have substantial benefits in reducing crime, raising earnings, and promoting education. Much less is known about their benefits for adult health. We report on the long-term health effects of one of the oldest and most heavily cited early childhood interventions with long-term follow-up evaluated by the method of randomization: the Carolina Abecedarian Project (ABC). Using recently collected biomedical data, we find that disadvantaged children randomly assigned to treatment have significantly lower prevalence of risk factors for cardiovascular and metabolic diseases in their mid-30s. The evidence is especially strong for males. The mean systolic blood pressure among the control males is 143 millimeters of mercury (mm Hg), whereas it is only 126 mm Hg among the treated. One in four males in the control group is affected by metabolic syndrome, whereas none in the treatment group are affected. To reach these conclusions, we address several statistical challenges. We use exact permutation tests to account for small sample sizes and conduct a parallel bootstrap confidence interval analysis to confirm the permutation analysis. We adjust inference to account for the multiple hypotheses tested and for nonrandom attrition. Our evidence shows the potential of early life interventions for preventing disease and promoting health.

Noncommunicable diseases are responsible for roughly two-thirds of worldwide deaths (*1*). Most policies that combat disease currently focus on treatment after disease occurs and on reducing risk factors in adult life. Recent discussions of effective ways of controlling the soaring costs of the U.S. health care system emphasize tertiary prevention—that is, reducing the worsening of the conditions of those already ill [see, e.g., (*2*)] and "bending the cost curve" for such treatments (*2*–*5*).

A complementary approach is to prevent disease or to delay its onset. A large body of evidence shows that adult illnesses are more prevalent and problematic among those who have experienced adverse early life conditions (*6*, *7*). The exact mechanisms through which early life experiences translate into later life health are being actively investigated (*8*, *9*).

This paper shows that high-quality, intensive interventions in the early years can be effective in preventing, or at least delaying, the onset of adult disease. The recent literature establishes that interventions that enrich the environments of disadvantaged children have substantial impacts on a variety of outcomes throughout their lives [see, e.g., (*10*–*12*)]. However, little is known about their benefits on health [see, e.g., (*13*)].

We study the long-term health effects of one of the oldest and most cited early childhood programs: the Carolina Abecedarian Project (ABC). ABC was designed as a social experiment to investigate whether a stimulating early childhood environment could prevent the development of mild mental retardation in disadvantaged children. The study was conducted on four cohorts of disadvantaged children born between 1972 and 1977 who were living in or near Chapel Hill, North Carolina. The base sample included 109 families (111 children). Of these 111 children, 57 were assigned to treatment status and 54 were assigned to control status. The intervention consisted of a two-stage treatment targeted to different segments of child life cycles: an early childhood stage (from birth through age 5) and a subsequent school-age stage (from age 6 through 8). The first stage of the intervention involved periods of cognitive and social stimulation interspersed with caregiving and supervised play throughout a full 8-hour day for the first 5 years. The stimulation component was based on a curriculum that emphasized development of language, emotional regulation, and cognitive skills (*14*, *15*). The second stage of the intervention focused on improving early math and reading skills through having "home-school resource teachers" customize learning activities based on materials being covered at school and then deliver these materials to the parents to use at home. The treatment and control groups from the first stage were randomly assigned to treatment and control groups in the second stage. We analyzed data on treatment and control groups created by the first-stage randomization. We found no evidence of any treatment effect on adult health from the second-stage randomization. The treatment effects are much smaller in magnitude than those estimated for the first-stage treatment and fail to achieve statistical significance at conventional levels. See the supplementary materials, section F, for evidence on this issue. References (*16*–*18*) show that for most outcomes the early educational intervention had much stronger effects than the school-age treatment. Additionally, previous work has also shown no health effects from a school-age (as compared with a preschool) educational intervention (*19*). The available evidence on interventions to prevent obesity points to the years 0 through 5 as a critical period (as compared with after 5 years) [see, e.g., (*20*–*22*)].

The ABC intervention also had a nutritional and health care component during the first stage. Treated children had two meals and a snack at the childcare center. They were offered primary pediatric care (both well- and ill-child care), with periodic check-ups and daily screening. More details on the intervention are given in the supplementary materials, section A.

Data

Data were collected on both treated and control cases from the beginning of their participation in the study, using surveys administered to children, parents, and teachers, as well as direct assessments. Before the intervention started, baseline information was gathered on parental characteristics, family structure, socioeconomic status, and birth circumstances. For both treated and control cases, data on cognition, personality, health, achievement, and behavior were then collected at multiple stages from birth until the end of school-age treatment. At the end of the second stage of treatment, participants were followed up at ages 12, 15, 21, 30, and in the mid-30s. Details on the outcomes and covariates used in this analysis are provided in the supplementary materials, section B.

A biomedical survey of cardiovascular and metabolic risk factors was conducted when participants were in their mid-30s. Information on biomeasures was collected from two sources. The first source was a physical exam carried out by a local physician in the Chapel Hill Internal Medicine practice, in which the same doctor (blind to treatment status) examined all subjects. In this exam, measurements were collected on weight (pounds), height (inches), waist (inches), hips (inches), and systolic and diastolic blood pressure (bp). The physician also checked the status of several body systems. The physician carried out a complete physical exam and checked whether there was abnormality in relation to the following systems: skin, HEENT (head, ear, eye, nose, and throat), neck, chest, lung, breast, cardiovascular, abdomen, neurologic, muscle strength and tone, musculoskeletal, and lymphatic. The second source was laboratory tests, based on nonfasting venous blood collected from the subjects during the medical visit (the phlebotomist was blind to treatment status, and the blood samples were sent out to another facility for analysis and report preparation).

Several issues arise in evaluating the health effects of the ABC intervention. First, the sample size is small. Conventional testing approaches that rely on large-sample properties of test statistics

[1]Frank Porter Graham Child Development Institute, University of North Carolina, Chapel Hill, NC 27599, USA. [2]Department of Applied Health Research, University College London, London WC1E 7HB, UK. [3]Department of Economics, University of Chicago, Chicago, IL 60637, USA. [4]University College Dublin, Dublin 4, Ireland. [5]American Bar Foundation, Chicago, IL 60611, USA.
*Corresponding author. E-mail: jjh.into@gmail.com

may be inappropriate. To surmount this problem, we use exact (small-sample) block permutation tests. We show in tables S25 and S26 that when we use bootstrap methods that have a large sample justification, we obtain the same inference about treatment effects. Bootstrapping has the additional benefit of producing confidence intervals to gauge the uncertainty inherent in our estimates.

Second, numerous treatment effects are analyzed. This creates an opportunity for "cherry picking"—finding spurious treatment effects merely by chance if conventional one-hypothesis-at-a-time approaches to testing are used. We account for the multiplicity of the hypotheses being tested using recently developed stepdown procedures (*23*).

Third, information is missing due to nonrandom attrition from the survey, potentially undermining the validity of inference. We investigate the causes of missing information and correct for potential bias using inverse probability weighting (IPW) (*24*, *25*). More information on the methodology and a detailed analysis of the attrition patterns is presented in the supplementary materials, sections C, D, and H.

Results

Physical Health

Estimated treatment effects and associated test statistics are given in Tables 1 (males) and 2 (females). Throughout the paper, we report one-sided single-hypothesis block permutation *P* values associated with the IPW treatment effect estimates; multiple hypothesis stepdown *P* values are reported in Tables 1 and 2. We first report the experimental results on the biomarkers of cardiovascular functioning. On average, treated males have lower values of both systolic and diastolic bp. This difference amounts to 13.5 mm Hg for diastolic bp ($P = 0.024$) and 17.5 mm Hg for systolic bp ($P = 0.018$). Treated females are less likely to be prehypertensive. The prevalence of prehypertension (systolic bp $\geq$ 120 or diastolic bp $\geq$ 80) (*26*) is 0.909 in the control group and 0.667 in the treatment group, and the difference is statistically significant ($P = 0.042$). Using two different definitions of hypertension [systolic bp $\geq$ 140 and diastolic bp $\geq$ 90 (*27*) and systolic bp $\geq$ 140 or diastolic bp $\geq$ 90 (*26*)], treated males are less likely to fall into the stage 1 hypertension category (a prevalence of only 0.105 or 0.211) as compared with a much higher prevalence observed in the control group (0.444 and 0.556). Both treatment effects are statistically significant ($P = 0.010$ and $P = 0.038$) (*28*).

Table 1. ABC intervention, males: main health results, biomedical sweep. This table presents the inference and descriptive statistics of selected outcomes of the ABC intervention. The first column describes the outcome analyzed. The remaining six columns present the following information: (i) Control mean. (ii) Treatment mean. (iii) Unconditional difference in means across treatment and control groups. We multiply the difference in means by (−1) when a higher value of the variable in the raw data represents a worse outcome so that all outcomes are normalized in a favorable direction (but are not restricted to be positive). (iv) Conditional treatment effect controlling for cohort, number of siblings, mother's IQ, and high-risk index at birth, and accounting for attrition using IPW. Probabilities of IPW are estimated using the following variables: prematurity (gestational age < 37 weeks), a dichotomous indicator for not having an exam for illness or injury in the past 2 years at age 30, Achenbach DSM attention-deficit/hyperactivity (AD/H) problems scale at age 30, and Achenbach substance abuse scale at age 30. The selection of covariates for IPW is based on the lowest Akaike Information Criteria (AIC) among models examining all combinations of covariates that present statistically significant imbalance between attriters and nonattriters. See supplementary materials section C and table S1 for details. (v) One-sided single-hypothesis block permutation *P* value associated with the IPW treatment effect estimate. By block permutation, we mean that permutations are done within strata defined by the preprogram variables used in the randomization protocol: cohort, gender, number of siblings, mother's IQ, and high-risk index. (vi) Multiple hypothesis stepdown *P* values associated with (v). The multiple hypothesis testing is applied to blocks of outcomes. Blocks of variables that are tested jointly using the stepdown algorithm are delineated by horizontal lines. *P* values $\leq$ 0.10 are in bold type. HbA1C, glycosylated hemoglobin; NCEP, National Cholesterol Education Program. See table S11 for complete estimation results.

Variable	Control mean	Treatment mean	Difference in means	Conditional treatment effect	Block *P* value	Stepdown *P* value
			Blood pressure			
Diastolic blood pressure (mm Hg)	92.000	78.526	13.474	19.220	**0.024**	**0.024**
Systolic blood pressure (mm Hg)	143.333	125.789	17.544	24.828	**0.018**	**0.029**
Prehypertension (systolic bp $\geq$ 120 and diastolic bp $\geq$ 80)	0.667	0.421	0.246	0.321	0.119	0.172
Prehypertension (systolic bp $\geq$ 120 or diastolic bp $\geq$ 80)	0.778	0.684	0.094	0.096	0.235	0.235
Hypertension (systolic bp $\geq$ 140 and diastolic bp $\geq$ 90)	0.444	0.105	0.339	0.537	**0.010**	**0.018**
Hypertension (systolic bp $\geq$ 140 or diastolic bp $\geq$ 90)	0.556	0.211	0.345	0.404	**0.038**	**0.038**
			Laboratory tests			
High-density lipoprotein (HDL) cholesterol (mg/dL)	42.000	53.211	11.211	11.720	**0.066**	0.110
Dyslipidemia (HDL < 40 mg/dL)	0.417	0.106	0.311	0.255	0.179	0.179
Prediabetes (HbA1C $\geq$ 5.7%)	0.583	0.473	0.110	0.043	0.426	0.426
Vitamin D deficiency (<20 ng/mL)	0.750	0.368	0.382	0.435	**0.021**	**0.021**
			Obesity			
Overweight (BMI $\geq$ 25)	0.750	0.722	0.028	0.190	0.239	0.239
Obese (BMI $\geq$ 30)	0.625	0.556	0.069	0.211	0.233	0.345
Severely obese (BMI $\geq$ 35)	0.375	0.111	0.264	0.404	0.115	0.232
Waist-hip ratio (WHR)	0.962	0.937	0.025	0.045	0.293	0.293
Abdominal obesity (WHR > 0.9)	0.875	0.647	0.228	0.294	0.137	0.218
			Multiple risk factors			
Obesity and hypertension	0.500	0.111	0.389	0.529	**0.016**	**0.016**
Severe obesity and hypertension	0.375	0.000	0.375	0.502	**0.005**	**0.012**
Hypertension and dyslipidemia	0.333	0.000	0.333	0.435	**0.006**	**0.012**
Metabolic syndrome (NCEP definition)	0.250	0.000	0.250	0.465	**0.007**	**0.014**
Framingham risk score (*34*)	7.043	4.889	2.154	3.253	**0.038**	**0.038**

Biomarkers of metabolic activity from blood tests (lipid panel) show that treated individuals have higher levels of high-density lipoprotein cholesterol (HDL-C)—"good" cholesterol. The magnitude of the difference between treated and control groups is larger for males. The control males have a level of HDL cholesterol of 42 mg/dL, which is just above the lower recommended limit of 40 mg/dL (*29*), whereas the level for the treated males is 11 mg/dL higher. The treatment effect is marginally significant ($P = 0.066$). This is reflected in the prevalence of dyslipidemia (elevated lipid levels). The difference in the prevalence of this condition between treatment and control groups is 0.311 for males (HDL-C < 40 mg/dL; $P = 0.179$) and 0.177 for females (HDL-C < 50 mg/dL; $P = 0.099$). The healthier metabolic status experienced by the male treatment group is confirmed by the lower prevalence of pre-diabetes indicators [glycosylated hemoglobin ≥ 5.7% (*30*), 0.473 versus 0.583], although the difference does not attain statistical significance ($P = 0.426$). Control males are also twice as likely to be affected by vitamin D deficiency (total vitamin D < 20 ng/mL (*31*); 0.368 versus 0.750; $P = 0.021$).

The prevalence of both severe and abdominal obesity is lower among treatment group males but the differences are not statistically significant at the 10% level. Treated females are less likely than controls to be affected by abdominal obesity, both when considering the waist-hip ratio (WHR) and when analyzing a dichotomous measure of WHR > 0.85 (*32*) (0.563 versus 0.762); both treatment effects are marginally significant ($P = 0.063$ and $P = 0.080$, respectively).

The health effects of the ABC intervention translate into lower prevalence of multiple risk factors that are particularly striking for males. Those in the treatment group are less likely to experience both obesity and hypertension [difference in mean (diff.) = 0.389; $P = 0.016$], severe obesity and hypertension (diff. = 0.375, $P = 0.005$), and dyslipidemia and hypertension (diff. = 0.333; $P = 0.006$). None of the treated males have the cluster of conditions known as metabolic syndrome [defined as waist circumference > 102 cm or 40 inches (*33*); HDL-C < 40 mg/dL; bp ≥ 130/85 mm Hg (*29*)], associated with greater risk of heart disease, stroke, and diabetes, whereas one in four in the control group is affected by it ($P = 0.007$). The prevalence of the metabolic syndrome for females [defined as waist circumference > 88 cm or 35 inches (*33*); HDL-C < 50 mg/dL; bp ≥ 130/85 mm Hg (*29*)] is lower in the treatment group, but the differences are not statistically significant at the 10% level. Finally, results for the Framingham

Table 2. ABC intervention, females: main health results, biomedical sweep. This table presents the inference and descriptive statistics of selected outcomes of the ABC intervention. The first column describes the outcome analyzed. The remaining six columns present the statistical analysis. The columns present the following information: (i) Control mean. (ii) Treatment mean. (iii) Unconditional difference in means across treatment and control groups. We multiply the difference in means by (−1) when a higher value of the variable in the raw data represents a worse outcome so that all outcomes are normalized in a favorable direction (but are not restricted to be positive). (iv) Conditional treatment effect controlling for cohort, number of siblings, mother's IQ, and high-risk index at birth, and accounting for attrition using IPW. Probabilities of IPW are estimated using the following variables for the biomedical sweep outcomes: prematurity (gestational age <37 weeks), mother Wechsler Adult Intelligence Scale (WAIS) digit symbol score at recruitment, Achenbach rule-breaking problem scale at age 30, and Achenbach substance abuse scale at age 30. The selection of covariates for IPW is based on the lowest AIC among models examining all combinations of covariates that present statistically significant imbalance between attriters and non-attriters. See supplementary materials section C and table S2 for details. (v) One-sided single-hypothesis block permutation *P* value associated with the IPW treatment effect estimate. By block permutation, we mean that permutations are done within strata defined by the preprogram variables used in the randomization protocol: cohort, gender, number of siblings, mother's IQ, and high-risk index. (vi) Multiple hypothesis stepdown *P* values associated with (v). The multiple hypothesis testing is applied to blocks of outcomes. Blocks of variables that are tested jointly using the stepdown algorithm are delineated by horizontal lines. *P* values ≤ 0.10 are in bold type. See table S12 for complete estimation results.

Variable	Control mean	Treatment mean	Difference in means	Conditional treatment effect	Block *P* value	Stepdown *P* value
		Blood pressure				
Diastolic blood pressure (mm Hg)	89.227	85.333	3.894	1.204	0.446	0.446
Systolic blood pressure (mm Hg)	135.636	129.666	5.970	2.185	0.300	0.380
Prehypertension (systolic bp ≥ 120 and diastolic bp ≥80)	0.727	0.500	0.227	0.101	0.222	0.222
Prehypertension (systolic bp ≥ 120 or diastolic bp ≥80)	0.909	0.667	0.242	0.244	**0.042**	**0.069**
Hypertension (systolic bp ≥ 140 and diastolic bp ≥ 90)	0.318	0.222	0.096	−0.003	0.375	0.499
Hypertension (systolic bp ≥ 140 or diastolic bp ≥ 90)	0.409	0.500	−0.091	−0.181	0.721	0.721
		Laboratory tests				
High-density lipoprotein (HDL) cholesterol (mg/dL)	55.318	60.444	5.126	6.002	0.143	0.143
Dyslipidemia (HDL < 50 mg/dL)	0.455	0.278	0.177	0.201	**0.099**	0.147
Prediabetes (HbA1C ≥ 5.7%)	0.364	0.353	0.011	0.070	0.580	0.580
Vitamin D deficiency (<20 ng/mL)	0.727	0.722	0.005	0.048	0.303	0.303
		Obesity				
Overweight (BMI ≥ 25)	0.955	0.889	0.066	0.054	0.482	0.690
Obese (BMI ≥ 30)	0.727	0.666	0.061	−0.112	0.790	0.790
Severely obese (BMI ≥ 35)	0.364	0.223	0.141	0.143	0.354	0.653
Waist-hip ratio (WHR)	0.933	0.876	0.057	0.053	**0.063**	0.101
Abdominal obesity (WHR > 0.85)	0.762	0.563	0.199	0.198	**0.080**	**0.080**
		Multiple risk factors				
Obesity and hypertension	0.364	0.278	0.086	−0.028	0.501	0.641
Severe obesity and hypertension	0.136	0.167	−0.031	−0.066	0.696	0.696
Hypertension and dyslipidemia	0.182	0.167	0.015	−0.043	0.486	0.725
Metabolic syndrome (NCEP definition)	0.190	0.062	0.128	0.057	0.184	0.393
Framingham risk score (*34*)	1.482	1.143	0.339	0.331	**0.070**	**0.070**

risk score (34) reveal that both treated males and females have a significantly lower risk of experiencing "total" coronary heart disease (CHD), defined as both stable and unstable angina, myocardial infarction, or CHD death, within the next 10 years (diff. = 2.154, $P = 0.038$ for males; diff. = 0.339, $P = 0.070$ for females).

In sum, the available evidence from the biomedical survey of ABC shows that the children who attended the child care center in the first 5 years of their lives enjoy better physical health in their mid-30s, with significant markers indicating better future health. The benefits of these health improvements are substantial and wide-ranging. Reference (35) provides a detailed review of the labor market costs of obesity, which range from increased absenteeism to lower productivity and wages. There are considerable losses in life expectancy due to obesity. Reference (36) reports estimates that 35-year-old males with hypertension would gain 1.1 to 5.3 years of expected life (0.9 to 5.7 years for females) from reducing their diastolic bp to 88 mm Hg using the Coronary Heart Disease Policy Model based on data from the Framingham Heart Study. Reference (37), using data from the Framingham Heart Study, finds that 40-year-old male nonsmokers suffer a loss of life expectancy of 3.1 years (3.3 years for females) because of being overweight, and of 5.8 years (7.1 years for females) because of obesity. Reference (38), using data from the National Longitudinal Study of Adolescent Health, shows that diabetics are less likely to be employed (by 8 to 11 percentage points), are more likely to participate in social programs (by 8 to 13 percentage points), and earn on average lower wages (by $1500 to $6000). Reference (39) provides further evidence from the National Longitudinal Survey of Youth 1979 that the duration of diabetes is negatively associated with employment and wages. Reference (40) reports a hazard ratio of 1.47 (95% confidence interval of 1.13 to 1.92) for all-cause mortality and of 2.53 (95% CI of 1.74 to 3.67) for cardiovascular mortality caused by metabolic syndrome (NCEP definition) in the San Antonio Heart Study.

Health Care

Availability of health care is a necessary condition for enjoying better health, although not a sufficient one (41). The upper panel of Table 3 reveals that treated males were more likely to be covered by health insurance at age 30 (0.704 versus 0.476; $P = 0.039$) and to be cared for in a hospital or by a doctor when sick (0.815 versus 0.524; $P = 0.037$). There are no significant differences in the effect of the treatment for females (upper panel of Table 4).

Physical Development

We analyze the effects of the intervention on early physical development, assessed using anthropometric measurements (height and weight) taken when the children had their routine assessments at multiple times in childhood. We transform the body mass index (BMI) measures into standard normal variates (z scores) using the lambda-mu-sigma (LMS) method developed in (42–44). The results are reported in the bottom panel of Table 3. Treated males were less likely than controls to be overweight throughout their preschool years, with almost no treated child having a weight-for-length above the 85th percentile [the age-specific measure for being "at-risk overweight" (45)] in the first 2 years of life. Control males had a greater weight-for-length z-score change between birth and 24 months of age. More rapid increases in weight-for-length in the first 6 months of life have been associated with increased risk of obesity at age 3 (46). Looking at the full BMI distribution by treatment status for males shown in Fig. 1, it is evident that the distribution is both less spread out and shifted to the left for treated males relative to controls. These results are consistent with the obesity-reducing effects found in Head Start (47, 48) and are consistent with evidence in the literature of the important role played by early-life nutrition (49). Further evidence on the

Table 3. ABC intervention, males: health care at age 30; physical development in childhood. This table presents the inference and descriptive statistics of selected outcomes of the ABC intervention. The first column describes the outcome analyzed. The remaining six columns present the statistical analysis. The columns present the following information: (i) Control mean. (ii) Treatment mean. (iii) Unconditional difference in means across treatment and control groups. We multiply the difference in means by (−1) when a higher value of the variable in the raw data represents a worse outcome so that all outcomes are normalized in a favorable direction (but are not restricted to be positive). (iv) Conditional treatment effect controlling for cohort, number of siblings, mother's IQ, and high-risk index at birth, and accounting for attrition using IPW. The selection of covariates for IPW is based on the lowest AIC among models examining all combinations of covariates that present statistically significant imbalance between attriters and non-attriters. See supplementary materials section C and table S1 for details. (v) One-sided single-hypothesis block permutation P value associated with the IPW treatment effect estimate. By block permutation, we mean that permutations are done within strata defined by the preprogram variables used in the randomization protocol: cohort, gender, number of siblings, mother's IQ, and high-risk index. (vi) Multiple hypothesis stepdown P values associated with (v). The multiple hypothesis testing is applied to blocks of outcomes. Blocks of variables that are tested jointly using the stepdown algorithm are delineated by horizontal lines. P values ≤ 0.10 are in bold type. CDC, Centers for Disease Control and Prevention. WHO, World Health Organization. We use weight-for-length $\geq$ 85th percentile for being "at-risk overweight" under 24 months and BMI-for-age $\geq$ 85th percentile for being overweight for 24 months and older (45). See table S13 for complete estimation results.

Variable	Control mean	Treatment mean	Difference in means	Conditional treatment effect	Block P value	Stepdown P value
Health care at age 30						
Health insurance coverage at age 30	0.476	0.704	0.228	0.226	**0.039**	**0.039**
Buys health insurance at age 30	0.333	0.630	0.296	0.248	**0.035**	**0.080**
Hospital or doctor office care when sick at age 30	0.524	0.815	0.291	0.265	**0.037**	**0.068**
Physical development in childhood						
At risk overweight (CDC) at 3 months	0.227	0.037	0.190	0.206	**0.026**	0.121
At risk overweight (CDC) at 6 months	0.250	0.080	0.170	0.205	**0.074**	0.182
At risk overweight (CDC) at 9 months	0.412	0.000	0.412	0.446	**0.004**	**0.023**
At risk overweight (CDC) at 12 months	0.429	0.000	0.429	0.408	**0.001**	**0.009**
At risk overweight (CDC) at 18 months	0.389	0.000	0.389	0.385	**0.000**	**0.004**
Overweight (CDC) at 24 months	0.333	0.000	0.333	0.343	**0.001**	**0.011**
Overweight (CDC) at 36 months	0.158	0.080	0.078	0.094	0.194	0.194
Overweight (CDC) at 48 months	0.300	0.167	0.133	0.133	0.150	0.235
Overweight (CDC) at 60 months	0.300	0.125	0.175	0.187	**0.058**	0.179
Overweight (CDC) at 96 months	0.421	0.120	0.301	0.286	**0.030**	0.117
Weight-for-length change 0–24 months (CDC)	0.858	−0.105	0.963	1.176	**0.058**	**0.058**
Weight-for-length change 0–24 months (WHO)	1.265	0.166	1.100	1.397	**0.049**	**0.057**

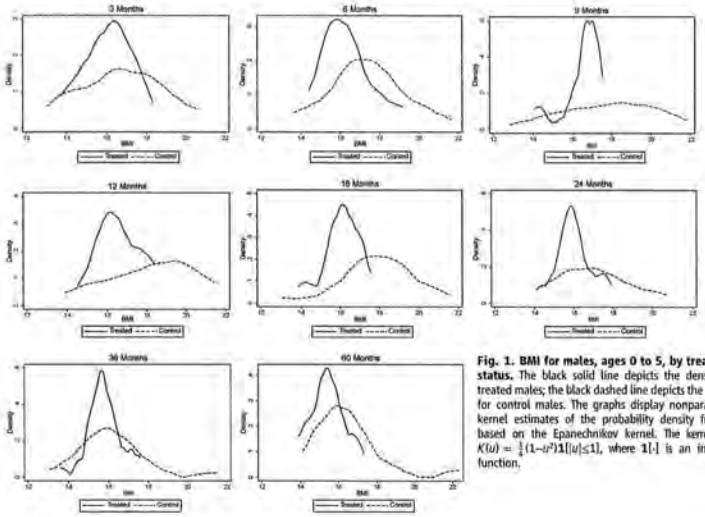

Fig. 1. BMI for males, ages 0 to 5, by treatment status. The black solid line depicts the density for treated males; the black dashed line depicts the density for control males. The graphs display nonparametric kernel estimates of the probability density function based on the Epanechnikov kernel. The kernel K is $K(u) = \frac{3}{4}(1-u^2)\mathbf{1}[|u| \leq 1]$, where $\mathbf{1}[\cdot]$ is an indicator function.

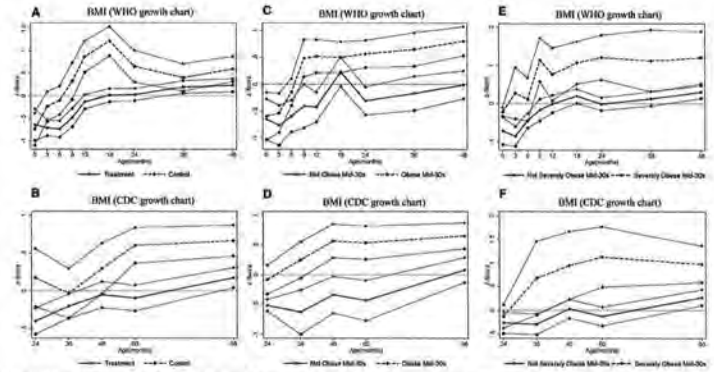

Fig. 2. BMI for males ages 0 to 4 years (A, C, and E) and 2 to 8 years (B, D, and F), by treatment and obesity status at mid-30s. The graphs show BMI z scores at different points in childhood (0, 3, 6, 9, 12, 18, 24, 36, 48, 60, and 96 months) by treatment and control status [(A) and (B)], by obesity status (BMI $\geq$ 30) in adulthood [(C) and (D)], and by severe obesity status (BMI $\geq$ 35) in adulthood [(E) and (F)]. Solid and dashed lines represent mean BMI by age for different groups, and the bands around each line represent standard errors for the corresponding means (one standard error above and below). (A), (C), and (E) use the WHO growth charts to construct the z scores; (B), (D), and (F) use the CDC growth charts. The CDC recommends the use of the WHO growth charts for less than 2 years of age (see www.cdc.gov/growthcharts/who_charts.htm).

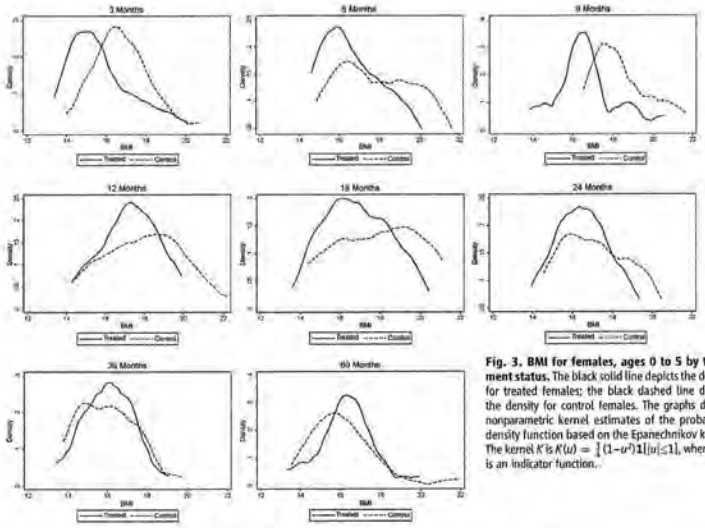

Fig. 3. BMI for females, ages 0 to 5 by treatment status. The black solid line depicts the density for treated females; the black dashed line depicts the density for control females. The graphs display nonparametric kernel estimates of the probability density function based on the Epanechnikov kernel. The kernel K is $K(u) = \frac{3}{4}(1-u^2)\mathbf{1}[|u| \leq 1]$, where $\mathbf{1}[\cdot]$ is an indicator function.

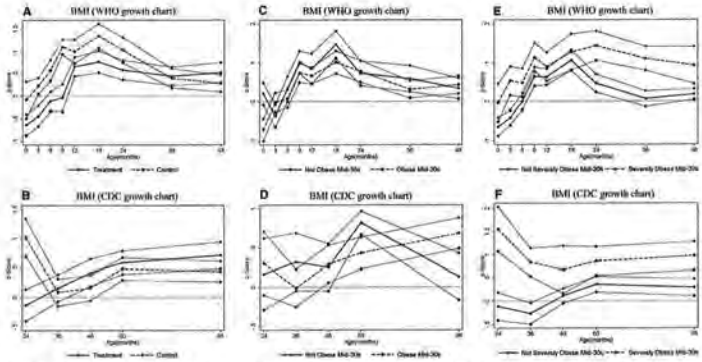

Fig. 4. BMI for females ages 0 to 4 years (A, C, and E) and 2 to 8 years (B, D, and F), by treatment and obesity status at mid-30s. The graphs show BMI *z* scores at different points in childhood (0, 3, 6, 9, 12, 18, 24, 36, 48, 60, and 96 months) by treatment and control status [(A) and (B)], by obesity status (BMI ≥ 30) in adulthood [(C) and (D)], and by severe obesity status (BMI ≥ 35) in adulthood [(E) and (F)]. Solid and dashed lines represent mean BMI by age for different groups, and the bands around each line represent standard errors for the corresponding means (one standard error above and below). (A), (C), and (E) use the WHO growth charts to construct the *z* scores; (B), (D), and (F) use the CDC growth charts. The CDC recommends the use of the WHO growth charts for less than 2 years of age (see www.cdc.gov/growthcharts/who_charts.htm).

Table 4. ABC intervention, females: health care at age 30; physical development in childhood. This table presents the inference and descriptive statistics of selected outcomes of the ABC intervention. The first column describes the outcome analyzed. The remaining six columns present the statistical analysis. The columns present the following information: (i) Control mean. (ii) Treatment mean. (iii) Unconditional difference in means across treatment and control groups. We multiply the difference in means by (−1) when a higher value of the variable in the raw data represents a worse outcome so that all outcomes are normalized in a favorable direction (but are not restricted to be positive). (iv) Conditional treatment effect controlling for cohort, number of siblings, mother's IQ, and high-risk index at birth, and accounting for attrition using IPW. The selection of covariates for IPW is based on the lowest AIC among models examining all combinations of covariates that present statistically significant imbalance between attriters and nonattriters. See supplementary materials section C and table S2. (v) One-sided single-hypothesis block permutation *P* value associated with the IPW treatment effect estimate. By block permutation, we mean that permutations are done within strata defined by the preprogram variables used in the randomization protocol: cohort, gender, number of siblings, mother's IQ, and high-risk index. (vi) Multiple hypothesis stepdown *P* values associated with (v). The multiple hypothesis testing is applied to blocks of outcomes. Blocks of variables that are tested jointly using the stepdown algorithm are delineated by horizontal lines. *P* values ≤ 0.10 are in bold type. We use weight-for-length ≤ 85th percentile for being "at-risk overweight" under 24 months, and BMI-for-age ≥ 85th percentile for being overweight for 24 months and older (45). See table S14 for complete estimation results.

Variable	Control mean	Treatment mean	Difference in means	Conditional treatment effect	Block *P* value	Stepdown *P* value
Health care at age 30						
Health insurance coverage at age 30	0.857	0.760	−0.097	−0.159	0.943	0.943
Boys health insurance at age 30	0.357	0.400	0.043	−0.027	0.511	0.810
Hospital or doctor office care when sick at age 30	0.929	0.800	−0.129	−0.131	0.875	0.964
Physical development in childhood						
At risk overweight (CDC) at 3 months	0.192	0.190	0.002	−0.036	0.418	0.757
At risk overweight (CDC) at 6 months	0.423	0.167	0.256	0.212	**0.040**	0.237
At risk overweight (CDC) at 9 months	0.360	0.143	0.217	0.181	0.169	0.548
At risk overweight (CDC) at 12 months	0.478	0.208	0.270	0.141	**0.055**	0.276
At risk overweight (CDC) at 18 months	0.440	0.318	0.122	0.118	0.311	0.669
Overweight (CDC) at 24 months	0.412	0.174	0.238	0.195	0.143	0.517
Overweight (CDC) at 36 months	0.261	0.143	0.118	−0.020	0.202	0.556
Overweight (CDC) at 48 months	0.192	0.409	−0.217	−0.247	0.944	0.944
Overweight (CDC) at 60 months	0.261	0.273	−0.012	−0.050	0.554	0.781
Overweight (CDC) at 96 months	0.174	0.350	−0.176	−0.230	0.943	0.985
Weight-for-length change 0–24 months (CDC)	0.857	0.918	−0.062	−0.052	0.658	0.688
Weight-for-length change 0–24 months (WHO)	1.129	1.215	−0.085	−0.006	0.660	0.660

importance of these early growth patterns is shown in Fig. 2. Fig. 2, A and B, shows the evolution of BMI-for-age during childhood for males by treatment status. It is noticeable that, while the BMI-for-age of the treatment group is always centered around the median for the reference population, the control group experiences a surge in the first year, which peaks at 18 months, becomes partially attenuated, and then exhibits diverging growth patterns after 5 years of age. It is striking that, when we consider the early growth trajectory by obesity status in adulthood (Fig. 2, C to F), those who are obese or severely obese in their mid-30s are already on a trajectory of above-normal BMI in the first 5 years of their lives. The effects of the intervention on early physical development are less pronounced for females (lower panel of Table 4 and Figs. 3 and 4). Fig. 4A and Table 4 show that there are significant differences in mean BMI-for-age and in the prevalence of being overweight, respectively, in the first 2 years of the intervention. These differences, however, fade out by the end of the daycare treatment. As observed for males, the females who are severely obese in their mid-30s are already on a trajectory of higher BMI-for-age in the first years of their lives (Fig. 4, E and F).

Conclusions

This paper analyzes recently collected biomedical data for the ABC intervention. Children randomly assigned to the treatment group for ages 0 to 5 have a significantly lower prevalence of risk factors for cardiovascular and metabolic diseases in their mid-30s. Treated males have a healthier body mass in their childhood years. These early benefits persist into adulthood.

The precise mechanisms through which these effects are obtained remain to be determined. It may be improved health due to access to pediatric care and proper nutrition in the early years, improved noncognitive skills as in the Perry study (*50*), improved cognitive skills, or some combination of all three factors. The bundled nature of the treatment does not provide the necessary independent variation in the components of the intervention that would allow us to examine the sources of treatment effects. A simple mediation analysis (presented in tables S19 and S20) suggests that half of the effect of the treatment on hypertension and obesity in the mid-30s may be mediated by the BMI of the child around 1 year of age, while no statistically significant role seems to be played by the availability of health insurance or improved socioeconomic status at age 30. However, the estimated mediation effects are not precisely determined, so these findings are necessarily speculative. Whatever the channel, our evidence supports the importance of intervening in the first years of life and suggests that early childhood programs can make a substantial contribution to improving the health of adult Americans and reducing the burden of health care costs. An intervention that lasted 5 years and cost $67,000 [in 2002 dollars (*51*)] produced sustained and substantial health benefits. Early childhood interventions are an unexplored and promising new avenue of health policy.

References and Notes

1. A. Alwan *et al.*, *Global Status Report On Noncommunicable Diseases 2010: Description of the Global Burden of NCDs, Their Risk Factors and Determinants*. (World Health Organization, Geneva, Switzerland, 2011).
2. E. Emanuel, *Science* **337**, 1433–1433 (2012).
3. D. M. Cutler, W. R. Sahrl, *Health Aff.* **32**, 841–850 (2013).
4. J. B. Attias, M. V. Pauly, G. R. Wilensky, *N. Engl. J. Med.* **367**, 954–959 (2012).
5. P. B. Ginsburg, H. Ichiseki, N. Paramo, *N. Engl. J. Med.* **367**, 2454–2456 (2012).
6. A. Dimeo, C. M. Pariante, A. Csipi, A. Taylor, R. Poulton, *Proc. Natl. Acad. Sci. U.S.A.* **104**, 1319–1324 (2007).
7. D. Gilsanz, J. W. Lynch, G. D. Smith, *J. Epidemiol. Community Health* **62**, 387–390 (2008).
8. C. Hartman, *Ann. N. Y. Acad. Sci.* **894**, 85–95 (1999).
9. S. Ensminger, C. Bass, P. D. Wadhwa, *Sci. Signal.* **5**, pt11 (2012).
10. J. J. Heckman, *Econ. Inq.* **46**, 289–324 (2008).
11. P. Hines, M. McCartney, J. Marvin, R. Wilds, *Science* **333**, 951 (2011).
12. W. Noles, W. S. Barnett, *Econ. Educ. Rev.* **29**, 271–281 (2010).

13. K. D'Onise, J. W. Lynch, M. G. Sawyer, R. A. McDermott, Soc. Sci. Med. 70, 1423–1440 (2010).
14. J. Sparling, I. Lewis, LearningGames for the First Three Years: A Guide to Parent/Child Play (Berkley Books, New York, 1979).
15. J. Sparling, I. Lewis, LearningGames for Threes and Fours (Walker and Company, New York, 1984).
16. F. A. Campbell, C. T. Ramey, Child Dev. 65, 684–698 (1994).
17. F. A. Campbell, C. T. Ramey, Am. Educ. Res. J. 32, 743–772 (1995).
18. F. A. Campbell et al., Early Child. Res. Q. 23, 452–466 (2008).
19. A. J. Reynolds, J. A. Temple, S. R. Ou, I. A. Arteaga, B. A. White, Science 333, 360–364 (2011).
20. K. Davis, K. K. Christoffel, Arch. Pediatr. Adolesc. Med. 148, 1257–1261 (1994).
21. M. A. T. Flynn et al., Obes. Rev. 7 (suppl. 1), 7–66 (2006).
22. E. Waters et al., Cochrane Database Syst. Rev. 12, CD001871 (2011) Review.
23. J. P. Romano, M. Wolf, J. Am. Stat. Assoc. 100, 94–108 (2005).
24. J. Johnston, J. E. DiNardo, Econometric Methods (McGraw-Hill, New York, NY, ed. 4, 1997).
25. D. G. Horvitz, D. J. Thompson, J. Am. Stat. Assoc. 47, 663–685 (1952).
26. A. V. Chobanian et al., Hypertension 42, 1206–1252 (2003).
27. K. Strong, R. Bonita, Surveillance of Risk Factors Related To Noncommunicable Diseases: Current Status of Global Data (World Health Organization, Geneva, 2003).
28. Treated males also report a lower (p) in the age 30 interview (0.190 versus 0.406) and in the history section of the mid-30s medical visit (0.158 versus 0.444); in neither of these cases are the differences statistically significant, although the rates are remarkably similar to those obtained for hypertension in the physical exam.
29. National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III), Circulation 106, 3143–3421 (2002).
30. American Diabetes Association, Diabetes Care 36 (suppl. 1), S11–S66 (2013).
31. M. F. Holick, T. C. Chen, Am. J. Clin. Nutr. 87, 1080S–1086S (2008).
32. WHO Consultation, Definition, Diagnosis and Classification of Diabetes Mellitus and its Complications (World Health Organization, Geneva, 1999).
33. S. M. Grundy et al., Circulation 112, 2735–2752 (2005).
34. P. W. F. Wilson et al., Circulation 97, 1837–1847 (1998).
35. J. Cawley, The Economics of Obesity (Oxford University Press, Oxford, 2011).
36. J. Tosteson, M. C. Weinstein, L. W. Williams, A. N. Tosteson, L. Goldman, Circulation 83, 1194–1201 (1991).
37. A. Peeters et al., Ann. Intern. Med. 138, 24–32 (2003).
38. J. M. Fletcher, M. R. Richards, Health Aff. 31, 27–34 (2012).
39. T. Miller, Econ. Hum. Biol. 11, 534–544 (2013).
40. R. J. Hunt, R. G. Resendez, K. Williams, S. M. Haffner, M. P. Stern, San Antonio Heart Study, Circulation 110, 1251–1257 (2004).
41. H. Levy, D. Meltzer, in Health Policy and the Uninsured, C. G. McLaughlin, Ed. (Urban Institute Press, Washington, DC, 2004), pp. 179–204.
42. T. J. Cole, Eur. J. Clin. Nutr. 44, 45–60 (1990).
43. T. J. Cole, P. J. Green, Stat. Med. 11, 1305–1319 (1992).
44. The LMS method is an age- and gender-dependent transformation that translates BMI measures into z scores. The transformation is applied to two widely used population-based reference data: (i) the 2000 CDC growth standards; and (ii) the 2006 WHO child growth standards scale. The LMS method transforms the information on the median (M), coefficient of variation (S), and skewness (L) of the BMI distribution of these population-based reference data into a Box-Cox power function. This information is then used to transform BMI measures into z scores.
45. S. E. Barlow, Expert Committee, Pediatrics 120 (suppl. 4), S164–S192 (2007).
46. E. M. Taveras et al., Pediatrics 123, 1177–1183 (2009).
47. D. E. Frisvold, J. C. Lumeng, J. Hum. Resour. 46, 373–402 (2011).
48. P. Carneiro, R. Ginja, Long Term Impacts of Compensatory Preschool on Health and Behavior: Evidence from Head Start (Institute for the Study of Labor, Bonn, 2012).
49. A reduction in BMI can be caused by either better nutrition and/or more physical exercise. Physical environment is certainly important: the Frank Porter Graham (FPG) Child Development Institute included a large open space, and outside play was a part of the daily routine (11:30 am and 3:00 pm); however, this is likely to have played an important role only after the toddlers had started walking. Of course, better nutrition does not necessarily come only in the daycare center; the treated children could have enjoyed more nutritious food at home as well, both because their preferences for food might have been affected and because their parents were counseled by the pediatricians on site during the physical exams. Finally, (47) provides evidence—based on the What We Eat in America 2003–2004, combined with the National Health and Nutrition Examination Survey (NHANES) 2003–2004—that Head Start participants consume similar level of calories as non–Head Start participants during evenings and weekends but fewer calories in the morning and in the afternoon during the week.
50. J. J. Heckman, R. Pinto, P. A. Savelyev, Am. Econ. Rev. 103, 2052–2086 (2013).
51. S. W. Barnett, L. N. Masse, Econ. Educ. Rev. 26, 113–125 (2007).

Acknowledgments: The order of authorship names does not reflect the degree of contribution. G.C., J.J.H., S.H.M., and R.P. contributed equally to the design, method, and economic analysis presented in the paper. F.C., E.P., and Y.P. generated the medical data for this work and engaged in repeated and productive discussions with G.C., J.J.H., S.H.M., and R.P. over the content of the intervention and the interpretation of the findings. Background data were generated over many years by researchers at the University of North Carolina at Chapel Hill. We thank others at the Frank Porter Graham Child Development Institute at the University of North Carolina (UNC) at Chapel Hill who contributed to this work: C. Bynum and E. Gunn, both of whom assisted in data collection and entry. In addition, thanks are due to T. Keyserling of the UNC School of Medicine, an investigator on the original grant; G. Stern, a consultant to the medical grant who contributed in numerous ways to the effort; and L. Powell-Tillman of Chapel Hill Internal Medicine, who conducted the physical examinations. We also thank M. Griffin for excellent research assistance. Funding given to FPG/UNC from grant 5RC1MD004344 (National Center on Minority Health and Health Disparities, NIH) was used to collect these data. The research was supported in part by the American Bar Foundation, the Pritzker Children's Initiative, the Buffett Early Childhood Fund, NIH grants NICHD 5R37HD065072 and 1R01HD54702, an anonymous funder, a European Research Council grant hosted by University College Dublin (DEVHEALTH 269874), and a grant from the Institute for New Economic Thinking (INET) to the Human Capital and Economic Opportunity Global Working Group (HCEO)—an initiative of the Becker Friedman Institute for Research in Economics (BFI). The views expressed in this paper are those of the authors and not necessarily those of the funders or persons named here. The data have been deposited by the principal investigator of the Abecedarian follow-up studies at the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan under identification number 34918.

Supplementary Materials
www.sciencemag.org/content/343/6178/1478/suppl/DC1
Materials and Methods
Supplementary Text
Tables S1 to S26
References (52–112)

12 November 2013; accepted 4 March 2014
10.1126/science.1248429

Structure of the Yeast Mitochondrial Large Ribosomal Subunit

Alexey Amunts,* Alan Brown,* Xiao-chen Bai,* Jose L. Llácer,* Tanweer Hussain, Paul Emsley, Fei Long, Garib Murshudov, Sjors H. W. Scheres,† V. Ramakrishnan†

Mitochondria have specialized ribosomes that have diverged from their bacterial and cytoplasmic counterparts. We have solved the structure of the yeast mitoribosomal large subunit using single-particle cryo–electron microscopy. The resolution of 3.2 angstroms enabled a nearly complete atomic model to be built de novo and refined, including 39 proteins, 13 of which are unique to mitochondria, as well as expansion segments of mitoribosomal RNA. The structure reveals a new exit tunnel path and architecture, unique elements of the E site, and a putative membrane docking site.

Mitochondria are organelles in eukaryotic cells that play a major role in metabolism, especially the synthesis of adenosine triphosphate (ATP). During evolution, mitochondria have lost or transferred most of their genes to the nuclei, substantially reducing the size of their genome (1). In yeast, all but one of the few remaining protein-coding genes encode subunits of respiratory chain complexes, whose synthesis involves insertion into the inner mitochondrial membrane along with incorporation of prosthetic groups (2). For the translation of these genes, mitochondria maintain their own ribosomes (mitoribosomes) and translation system. The mitochondrial ribosomal RNA (rRNA) and several transfer RNAs (tRNAs) are encoded by the mitochondrial genome, whereas all but one of its ribosomal proteins are nuclear-encoded and imported from the cytoplasm. Mitoribosomes have diverged greatly from their counterparts in the cytosol of bacterial and eukaryotic cells and also exhibit high variability depending on species (table S1) (3). Several genetic diseases map to mitoribosomes (4). In addition, the toxicity of many ribosomal antibiotics, in particular aminoglycosides, is thought to be due to their interaction with the mitoribosome (5).

Mitochondrial translation in the yeast *Saccharomyces cerevisiae* (6) has been used as a model to study human mitochondrial diseases (7). The 74*S* yeast mitoribosome has an overall molecular weight of 3 MD, some 30% greater than that of its bacterial counterpart. It consists of a 54*S* large subunit (1.9 MD) and a 37*S* small subunit (1.1 MD).

MRC Laboratory of Molecular Biology, Cambridge CB2 0QH, UK.
*These authors contributed equally to this work.
†Corresponding author. E-mail: scheres@mrc-lmb.cam.ac.uk (S.H.W.S.); ramak@mrc-lmb.cam.ac.uk (V.R.)

Mr. DAVIS. I also—well, let me ask you, Ms. Kilburn. You mentioned in your testimony that studies—that the Federal Government has studies underway, and the data has not all been collated and put together, and so there is not a report yet. But without that report, would you say that home visiting is really an effective way of helping to strengthen and prepare children and their families that ultimately will provide them with healthier lives, and even save our taxpayers a great deal of money?

Ms. KILBURN. There is a strong research base that supports the idea that these individual programs can improve outcomes for children and families. What MIECHV adds to that is allowing us, for the first time, to test the concept of scaling that up on a large basis in order to see if we can capture those effects that were found in individual programs at a community or a city or a state level.

So, there is a lot of evidence to support the basic idea behind MIECHV, and now we are really testing if it can achieve this transformation in the way we deliver human services so that instead of treating things after the fact, we prevent them. And so there is a large research basis that supports that idea, and we are really testing it right now.

Mr. DAVIS. And I guess the reason I indicated—I said that for all of my life I have been associated—I have lived in low-income communities all of my life, growing up, and, of course, even today. I used to train community health aides, basically, to do home visiting, and basically to make assessments of the health needs of individuals in the community who often times would not come to the clinics unless they had been prompted a little bit, prodded a little bit.

And I know that there have been people who have said that these programs are unnecessary, that they don't really work, or, if they do, let the local governments and the state governments provide the resources. Are you aware that the Federal Government, based upon your research, has been very instrumental in making these programs work, and work effectively?

Ms. KILBURN. I don't think we have research evidence on MIECHV, per se. But what MIECHV is doing is providing the data for us to answer that question. We don't have that right now, but the study underway will provide insights into that.

The reason it is important that the Federal Government does this is that, while the individual states have been increasing their investments in home visiting, it hasn't been in a systematic way that supports evidence-based programming and that provides infrastructure support to implement programs while also using evidence-based practices in implementation.

And so, if we allowed the states to do it one by one, we wouldn't really know the answer to that question: Does scaling this up transform human services? We just have a patchwork or sprinkling of different, smaller experiments.

Chairman REICHERT. Thank you, Mr. Davis.

Mr. DAVIS. Thank you very much. Mr. Chairman, let me just thank you on assembling one of the most outstanding panels I think that I have heard testify on this matter. So thank you all very much.

Chairman REICHERT. Thank you.

Mr. DAVIS. Thank you, sir.

Chairman REICHERT. Thank you to the staff. Mr. Kelly, you are recognized.

Mr. KELLY. Thank you, Chairman. And I agree with Mr. Davis; this is a good panel to have before us.

One of the things that I have been wondering about—and, of course, it seems to me that home visits are critical if we are going to continue to support families. And I think one of the things that

we have seen in our cultural that is causing a greater problem is the fact that the nuclear family is now not at the same level it used to be.

Now, some of these programs are working, but there is a lot of areas that they are not working. What could we do to change that?

Mr. Baron and Ms. Kilburn, you both had testimony towards that. So how do we look at a good return on the investment for the American taxpayers that we actually make a difference in these peoples' lives?

And, Ms. Sucilla, I really applaud you for what you have been able to do. But that is an example of the success of it. So, tell me. What else could we do? What programs aren't working? And how would we redirect or redeploy those dollars to make sure that there is a better return on it, not just for the taxpayers, but also for the people that we are spending the time with?

Mr. BARON. Well, for some of the more effective models, like the Nurse-Family Partnership, one of the things that they did was they measured long-term impacts for both the people who got the program, the program group, and a control group of families that did not get the program. They measured their use of public assistance over a 12-year period, and found that the savings in families' use of public assistance more than offset the initial program cost. So, at least for that model, there was strong evidence not only of improvement in people's lives, but savings to the taxpayer.

But MIECHV funds, as I mentioned, a diversity of home visiting models, some of which have been found in rigorous studies not to be as effective. One of the things that could be done to shift funds within this program to more effectively focus on programs that really make a difference in people's lives is to slightly change the evidence standard to make a modest but important revision in the evidence standard.

Right now, the program's standard for "evidence-based" is that the program model produces statistically significant effects. But the standard does not ask whether those effects are of policy or practical importance, like reduced use of public assistance or reduced child maltreatment rates. That has opened a loophole in the program, a modest loophole, allowing several models to qualify as evidence-based, solely on the basis of statistically significant effects on outcomes that may not be particularly important, or effects that may be tiny in magnitude. That would be one——

Mr. KELLY. Okay, but as you look at this, you have data that you can look at across the board on different programs.

Mr. BARON. Yes.

Mr. KELLY. You have the ability, then, to look at which ones are working and which ones aren't working. And I would just think that, when you look at that, and you are looking for a really good return on the investment, we are talking about building a stronger society, and you only can do it through building stronger families, which will result in stronger communities and a stronger country.

So, when you look at these, then, how do you separate one from the other, say, you know, "This is one that we see working. These other ones aren't doing what they are supposed to do." Ms. Towne and Ms. Sucilla talked about how that one worked for them. And I will just tell you, being a grandfather and having eight grand-

children—two more on the way—I have seen what can happen with families that are very supportive, and they get help from the outside.

So, you have the ability to do this, though. You can actually compare programs and say, "This one works, this one is not working the way it should," and you can redeploy those dollars. That is the effort that you are trying to do. Is that not correct?

Mr. BARON. Yes. A very—a straightforward way to do it, which is used in many different areas now, increasingly in social spending as well as in medicine. A home visiting program model generally does not have enough money to serve every family that qualifies. So one thing that is often—that is sometimes done is to do a randomized control trial, where you use a lottery—meaning random assignment—to allocate some families to receive the program, and other families, an equivalent set who serve as a control group. They get access to the usual services in the community.

And then you track outcomes, important outcomes, over time, like rates of child maltreatment for the program group versus the control group; families' use of public assistance in the program group versus the control group. And the outcomes there will tell you which program—in a scientifically——

Mr. KELLY. Are you able to share that information back and forth, then, and actually, you know, come up with a change, then, and actually look at this as the best—this is the best way to spend those dollars? You can only spend a dollar once, so you want to make sure it is spent the right way. So, to get the most mileage out of it, you can actually share that data and improve these programs.

Mr. BARON. That can be shared. And, in fact, MIECHV does that, it looks at that data, and it allocates—the grants are made toward—on the basis of evidence as one of the main selection criteria, that kind of evidence. There are ways in which that evidence criterion can be strengthened. But, in general, the program allocates funds naturally, based on that data we were just talking about.

Mr. KELLY. Okay, all right. Thank you. And just to—so we can redeploy these dollars the right way after we have looked at this evidence that is conclusive. And you say, "Listen, we don't need to spend money over here. This program is not coming up with the results that we need," and we can redeploy.

That is my main concern, because I think too often we continue to spend money on programs that aren't effective. And we say, "Well, why do we do this?" It is because we have always done that. That is not the answer. The answer is to change it so it benefits families more.

Mr. BARON. I couldn't agree with you more. That is one of the unique features of this program, as opposed to the way social spending is often done—social programs are often done—that in this case money is allocated on the basis of evidence. So, if new findings come in showing a particular model is effective, or a particular model is not effective, the funding is naturally, through the grant-making process, allocated toward the more effective models.

Mr. KELLY. Okay, good, thank you.

Chairman REICHERT. Thank you, Mr. Kelly. I think that is the question I was asking, too. Mr. Kelly and I, we are going at it at different angles, as to how the information is shared, the programs are changed, so that they fit what the star of our show today needs.

So, Mr. Renacci, you are recognized.

Mr. RENACCI. Thank you. And I want to thank you, Chairman Reichert, for holding this hearing, and highlighting the importance of using evidence brand models to home visiting programs. And I also want to thank the witnesses. This is a great panel of witnesses.

In my home state of Ohio, an estimated 1.8 million Ohioans are living below the poverty line. Poverty has increased by approximately 58 percent over the last decade, despite a stagnant population and a whole host of federal programs created to end the cycle of poverty. So I am glad we are here today to discuss policies that work.

Ohio's rate of infant mortality is also ranked the 11th worst in the nation, averaging 7.7 deaths per 1,000 births in the first year of life. In fact, according to a study conducted by researchers at Case Western Reserve University, infant mortality exceeds some third-world countries in certain neighborhood surrounding the university's circle area in Cleveland.

While I applaud the efforts of home visiting programs that have been proven to improve the safety and well-being of infants and children, we as a nation cannot continue to financially support ineffective programs. As a small business owner, when I implemented a particular program, I also wanted to ensure that the procedures that I created were effective and really meeting certain goals that I created for those employees. Businesses—and my business—actually measured our programs and used evidence-based models in order to guarantee success. And I think the Federal Government should be no different.

As a Member of Congress, I want to protect taxpayer dollars from going toward ineffective programs, and redirect them toward programs that do what is intended, and lift individuals out of poverty. I really hope, together with my friends across the aisle, that we can determine what works, what doesn't work, and can make—so that government can finally empower individuals to become independent and self-sufficient.

Ms. Towne and Ms. Lowell, both of your programs have been shown to increase the safety and well-being of young children. For example, I know families who have gone through the Nurse-Family Partnership program, have been shown to have fewer child injuries, fewer emergency room visits, and less reported child abuse and neglect. Families participating in Child First also are less likely to be involved with Child Protective Services, even after three years. Both of your organizations have had some successes. What do you think are really some specific factors that have led to these outcomes or successes?

I will start with you, Ms. TOWNE.

Ms. TOWNE. Could you repeat the last part of your question, please?

Mr. RENACCI. Yes. What do you think are some of the specific factors that have led to these outcomes or successes for both of your programs?

Ms. TOWNE. That is a complex question. I would say that there are many factors of the Nurse-Family Partnership model that have led to success. From a home visiting point of view, I believe that it is the length of time and the intensity of the program that allows me to continue to support a family for two-and-a-half years in developing a strong infant bond, a strong family—a stronger family unit than when our relationship had started is part of what helps.

Mr. RENACCI. So you are zeroing in on the two-and-a-half years, making sure the program—you feel pretty strongly about the two-and-a-half year time frame.

Ms. TOWNE. I feel pretty strongly that a larger length period of time, along with the intensity of the visits—we are looking at approximately two hours per visit every other week—allows quite a bit of time for growth.

Mr. RENACCI. Ms. Lowell, do you have any——

Ms. LOWELL. Yes. I think that for us, there are a number of factors. One is the intensity of the training for our staff. We are working with both bachelor's level care coordinators and master's licensed clinicians, as our mental health clinicians who go in the home. And we have a training period that lasts a year's time (not before they can start; they start after an intensive two-week training). But we both have what is called a Learning Collaborative, which lasts a year's time, and we have our senior clinical consultants working with each new site on a weekly basis.

So, we are really looking at, "do you have fidelity to the model, do you really understand what the work is about, and are you doing it well?" And we also look at implementation measures on an ongoing way every single month, and we also look at outcomes, at baseline six months and at discharge. So we are able to say, "Do we have a problem here? Are the people who are implementing this model doing it really well? Are they doing it according to the model fidelity," which I think is essential.

The other really important piece about the work itself is it is built on relationships and on building relationships. And I think that, at least when you talk about the families that we serve, which are the most vulnerable, they are the ones who have had abuse and neglect, domestic violence, homelessness, substance use; these are really difficult families. They don't trust easily. And they are not very willing to let new people into their lives. And it takes time to build that relationship. But when you have built that relationship of trust, you are able to make a real difference. These are families who want to do the right thing, they want to do the best for their children. They are there. But it is a process.

And so, if you can build that relationship you can work with both the parent or care giver and the child therapeutically, to understand what are the barriers, what are the problems. But it is not so simple. We can't just teach them, because that is not enough. They don't learn that information. It has to be at a deeper level. And I think, for us, with our families, we are so successful with them because we do go to that deeper level, and make sure our staff are doing it correctly.

And one other really important thing I have to say is I think that, as was said, that our home visiting models are different, and they target different outcomes. And it is really important for us to be matching the outcome that the family needs and wants with the kind of program that they are getting. And I think that we have problems when we have a mismatch there, when we have a very vulnerable family, a mom who is running from domestic violence, who is severely depressed, and someone who is just going to be teaching them things when the mom is not available to learn them.

But, I think that for other moms—that it may be a perfect match for them. So we need this continuum of models to work together in a system if we are really going to be effective.

Mr. RENACCI. Thank you, Mr. Chairman.

Ms. LOWELL. Thank you.

Chairman REICHERT. Thank you. That was two minutes over time, but that was so passionate, there was no way I was going to interrupt.

Ms. LOWELL. Sorry.

[Laughter.]

Chairman REICHERT. That was a great answer. Mr. Doggett, you are recognized.

Mr. DOGGETT. Thank you very much. Dr. Lowell, you described in your testimony the need here is enormous. What would be the impact in your area if the federal funding through MIECHV is not continued beyond next spring?

Ms. LOWELL. Oh, thank you. That is a really important question. We have—with our MIECHV funding, we have five new sites and three expansion sites, which cover about a third of our state Child First programs. So, if the MIECHV funding is not continued, there is very high likelihood that those programs will be closed. And all of those children and families in those areas will not be served.

Mr. DOGGETT. And you used in your testimony the comparison between a $7,000 cost and a $30,000 cost for not relying on home visiting to intervene in advance. Would you elaborate on that?

Ms. LOWELL. I think that we are seeing tremendous cost savings—at least we did a preliminary cost benefit analysis in looking at our data, and we need to do much more. But we know that, for instance, if one of our children, many of our children have very severe behavioral problems and mental health problems if one of those children were to be hospitalized for just two months in a psychiatric hospital, it would cost $130,000. We know that we are getting great language outcomes. If one child needs special education, it is going to cost $16,600. If one child goes into foster care—and I have heard various costs but we are talking about, potentially, somewhere between—depending on the numbers I have seen—$20,000 and $80,000 for a child for a year in foster care. And many of our families have multiple children.

For example, we just had a family that I just heard about, which we started working with, where Mom was going to be evicted. She had six children. Our care coordinator got her into a shelter initially, and then got her an apartment with low-income housing, and saved six children from going into foster care. And the trauma of foster care is very major, because that separation is really dif-

ficult, especially if it is not because there is abuse and neglect, but just because the circumstances can't support that parent caring for the children.

So, I also see we are getting other outcomes—we have some data on hospitalization and ER visits, which is actually—it is very preliminary, but we are talking about a four to sixfold decrease in hospitalization and emergency room visits.

Mr. DOGGETT. Thank you.

Ms. LOWELL. Thank you.

Mr. DOGGETT. Thank you very much, and thank you for what you are doing there.

And, Dr. Kilburn, you have made reference, of course, to this important study that will come out next year, and the blend that is already in the Act to both permit some innovation, but to ensure that our dollars are well spent with evidence-based programs. Do you believe that that study will allow us to focus on more effective programs? Or do you think that the study is something that would lead to the elimination of the federal program entirely?

Ms. KILBURN. I think the study will indicate whether this scaling up of the individual programs has been accomplished. So, were they able to replicate these programs with fidelity, and can we provide not just the quantity, but also the quality? I think it will also indicate whether, when you scale the programs up, you replicate the same outcomes.

So it is one thing when Darcy is overseeing Child First very closely; we are pretty confident that we are going to get great results. But when we start having this replicated in other states, and Darcy is not directly involved, for example, can we achieve the same outcome? So it will provide information of that sort.

Mr. DOGGETT. You believe in the value of home visiting as a way of preventing abuse and cost. It is a question more of how to do it, rather than whether to do it.

Ms. KILBURN. That is right.

Mr. DOGGETT. Is that correct?

Ms. KILBURN. That is correct.

Mr. DOGGETT. And, Ms. Towne, I am very impressed by both your testimony. But what would be the effect in your area if you lose federal funding?

Ms. TOWNE. Unfortunately, as a home visitor, I am not sure that I could really testify to the answer to that, as far as funding resources go. I believe it would have a significant impact to our families in Yakima County.

Mr. DOGGETT. I think your testimony—and yours, as well—really did bring a human, very human dimension to the statistics that we frequently throw around here about how this program, this intervention, can really help make a difference in lives. And I look forward to your continued involvement, and report to the committee on how we can achieve the very most in using home visiting as a way to prevent abuse and other costs.

Thank you so much for the testimony each of you gave.

Ms. TOWNE. Thank you.

Chairman REICHERT. Thank you, Mr. Doggett. Mr. Griffin, you are recognized.

Mr. GRIFFIN. Thank you, Mr. Chairman. Thank you all for being here today. Mr. Baron, I wanted to focus a little bit on HIPPY USA, which is—although it serves many folks across the country, it is based in Little Rock, which is my district, second congressional district in Central Arkansas. And HIPPY stands for Home Instruction for Parents of Preschool Youngsters, HIPPY USA.

So, they are operating both in rural and urban areas, and I wanted to ask you, Mr. Baron, when you are reviewing your models for effectiveness, are you seeing any differences between the outcomes in rural areas versus urban areas? And, if so, what do you attribute those differences to?

Mr. BARON. It is interesting that there have been evaluations of—scientific evaluations of home visiting, randomized trials that have been done in both rural and urban areas. One of the Nurse-Family Partnership studies was done in Upstate New York, in a rural, primarily white population, and that study found very large effects, as long as 15 years after the study began, for the treatment compared to the control group. Big decreases for the children of the mothers, for instance, in rates of criminal activity and rates of child maltreatment, and so on.

But some of the other studies have been done, other good studies—another Nurse-Family Partnership randomized trial was done in Memphis, Tennessee, an urban setting. This study also found large effects, but different. The effects may vary for a variety of reasons. It might be the women in Upstate New York, there was a larger population of smokers than in Memphis. And then the third trial was also urban—that was done in Denver.

What was most impressive about those sets of studies was that sizable effects were found across different ethnicities, rural versus urban. There were different effects across the different studies, but all showed important improvement in people's lives. The differing effects could have been because the populations were different.

Mr. GRIFFIN. I think—Ms. Lowell, I think you referred to the fact that different programs or different methods are used to reach different outcomes. Different families have different needs. And I was wondering—and either you, Ms. Lowell, or Mr. Baron—when you look at these different programs, are there some programs or methods that work in certain areas—urban areas, for example—that don't work as well in rural? Have you seen anything that would indicate that, or different parts of the country?

Ms. LOWELL. I think that, first of all, it has to do with the uniqueness of each family; and that if you really do a good assessment, and you really understand what the needs of that family are, you are going to be the most successful, because you are going to be able to target your intervention specifically to the needs of the family.

As you described so beautifully, it is about what that family needs. Now——

Mr. GRIFFIN. And just to interrupt there, because—so with each of the different models or programs or methodologies, that flexibility exists. They—with each of them they try to take the particular family's circumstances into account, and there is a certain flexibility there?

Ms. LOWELL. I think that each model does it in their own way. But I think that different models have different capabilities.

And, for instance, in Connecticut we work in partnership with other home visiting. We have another big home visiting program. And so, we often get referrals from that other home visiting program, because they have a para-professional model. They know, if they are working with a mom who is really depressed, or one who has, let's say, domestic violence, that they are not really the right model to work with that family. So they will refer them to us. And we will do a very close transfer, so that we will then take that family, or take a family with a child who is having major behavior problems.

I think that each of us has the same idea, that these are very family-focused kinds of interventions. And, in that sense, I think that everyone is trying to do that, really trying to understand who their families are.

Mr. GRIFFIN. So there is some degree of nimbleness, if you will, to allow for tweaks and changes if—it sounds like, through transfers, or what have you—if things aren't working exactly as maybe one thought.

And I am out of time. Thank you, Mr. Chairman.

Chairman REICHERT. Thank you, Mr. Griffin. Mr. Crowley, you are recognized.

Mr. CROWLEY. Ms. Kilburn, did you want to respond very quickly to that?

Ms. KILBURN. Sure. I just wanted to raise one issue that hasn't come up today that I think is relevant, and that is that a constraint for implementing these models is the local workforce, and this is particularly relevant for rural areas.

So, if you have a program that needs to deploy mental health clinicians, or registered nurses, it is the case that many rural areas are designated as health professional shortage areas, and you might have selected one of these great programs, and have the will to do it, and even have the funding, but you don't have the trained personnel to be able to pull it off.

So, I think particularly in our rural areas, we are observing that some of these programs have not been selected, and that may be a contributing factor.

Mr. CROWLEY. I appreciate that. Thank you, Ms. Kilburn.

Mr. Chairman, reclaiming my time, I am very pleased we are having this hearing here today on an effective, evidence-based program that has tremendous social benefits down the road. Being from New York, I have seen the great work of the Nurse-Family Partnership and what it does, and I have been so impressed with the results this program has shown over the years.

New York City Nurse-Family Partnership is the largest urban program of its kind in the country. It has served more than 10,500 clients since its creation in 2003, and currently serving more than 1,700 clients across all 5 boroughs. These dedicated professionals like Ms. Towne are working with New York City families to make sure they have the education, information, and assistance they need to raise their children and become stronger families. And the long-term results are so impressive, even beyond what you would expect from the immediate assistance provided.

Mr. Chairman, I would like to, if I could, offer into the record the state profile of the Nurse-Family Partnership of New York, if I could.

Chairman REICHERT. Without objection.

[The information follows: Mr. Crowley]

Rep. Joseph Crowley

Nurse-Family Partnership
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STATE PROFILE 2013

NURSE-FAMILY PARTNERSHIP IN NEW YORK

Nurse-Family Partnership (NFP) is an evidence-based, community health program that helps transform the lives of vulnerable mothers pregnant with their first child. Each mother served by NFP is partnered with a registered nurse early in her pregnancy and receives ongoing nurse home visits that continue through her child's second birthday. Independent research proves that communities benefit from this relationship — every dollar invested in Nurse-Family Partnership can yield more than five dollars in return.

NURSE-FAMILY PARTNERSHIP GOALS

1. Improve pregnancy outcomes by helping women engage in good preventive health practices, including thorough prenatal care from their healthcare providers, improving their diets, and reducing their use of cigarettes, alcohol and illegal substances;
2. Improve child health and development by helping parents provide responsible and competent care; and
3. Improve the economic self-sufficiency of the family by helping parents develop a vision for their own future, plan future pregnancies, continue their education and find work.

Positive Outcomes for Clients Served by New York's Nurse-Family Partnership

93% of children received all recommended immunizations by 24 months

89% of mothers initiated breastfeeding and 34% continue to breastfeed at child age 6 months

76% of mothers had no subsequent pregnancies at program completion

69% of mothers are in the workforce at program completion, up from 34% at intake (among those clients 18 and older at intake)

CLIENT DEMOGRAPHICS

At intake

Median age: 20

86% Unmarried

71% Medicaid recipients

Cumulative data as of Sept. 30, 2012

Race

50% Black or African American

25% Declined to self-identify

16% White

4% Multi-racial

3% Asian

1% American Indian/Alaska Native

1% Native Hawaiian/Pacific Islander

Ethnicity

56% Non-Hispanic/Latina

36% Hispanic/Latina

8% Declined to self-identify

Data Oct. 1, 2010 - Sept. 30, 2012.
All data is client self-identified.

STATE PROFILE: NEW YORK

In New York, Nurse-Family Partnership currently serves families in all five boroughs of New York City and in Monroe and Onondaga Counties.

IMPLEMENTING AGENCY CONTEXT

Nurse-Family Partnership originated in New York State where the first of three randomized, controlled trials was conducted in Elmira to test the program's effectiveness. After all three research trials demonstrated powerful outcomes, the NYC Department of Health and Mental Hygiene adopted the program. Since 2003, the NYC NFP has expanded to become the largest urban site in the nation. In 2006 and 2007, the program expanded to Monroe and Onondaga Counties, respectively.

ESTABLISHED: 2003
FAMILIES SERVED: 11,273

FUNDING CONTEXT

Funding sources for New York's NFP programs throughout the state vary and include: state and local health departments, the State Office of Children and Family Services, Medicaid, the federal Healthy Start Initiative, the New York City Council and county general funds, as well as the United Way of Greater Rochester and numerous other private funders. In January 2012, New York State's Medicaid Redesign Team submitted its final set of recommendations to the governor for approval—including a proposal by the NYC Department of Health and Mental Hygiene for more comprehensive Medicaid coverage of NFP home visits as a preventive service. If granted, Medicaid funding would increase for all NFP programs statewide.

PUBLIC HEALTH PROGRAM WITH PROVEN AND MEASURABLE RESULTS

Societal Benefits

Nurse-Family Partnership is a rare community health program that has been documented to achieve lasting and significant effects through multiple, well-designed randomized, controlled trials. More than 35 years of research proves that it works. This evidence shows our clients – low-income, first-time mothers – that if they follow the program and work with their nurse, they can transform their lives and the lives of their children. Moreover, independent policy research makes clear that every public health dollar policymakers and communities invest in Nurse-Family Partnership could realize more than five dollars in return.

National Recognition

- The Washington State Institute for Public Policy, The RAND Corporation and The Brookings Institution have concluded that investments in Nurse-Family Partnership lead to significant returns to society and government, giving taxpayers a $2.88-5.70 return per dollar invested in the program.

- The Partnership for America's Economic Success finds investments in early childhood programs, such as Nurse-Family Partnership, to be stronger investments than state business subsidies when viewed from a long-term, national perspective.
- The Center for the Study and Prevention of Violence reviewed over 650 programs with published research in peer-reviewed literature. Nurse-Family Partnership was found to be one of 11, or 6% of the programs that clearly work, or even appear promising. The Center fully supports and endorses NFP as one of its "Blueprints" programs.
- The non-profit, non-partisan Coalition for Evidence-Based Policy finds "strong evidence of effects on life outcomes of children and mothers" by Nurse-Family Partnership.

Nurse-Family Partnership

Renée Nogalles
Program Developer
303.813.4311

NFP National Service Office
1900 Grant Street, Suite 400
Denver, CO 80203
www.nursefamilypartnership.org

MARCH 2013

Mr. CROWLEY. Reductions in child abuse and neglect, better educational outcomes for children, a greater likelihood of economic stability for the mother, these results are not just good for the participants, but also are good for society, as a whole.

Mr. Baron, I know you were here at a previous hearing this Subcommittee held, and we discussed the ripple effect we would see from cutting or eliminating funding for these types of programs. Our budget should focus on long-term priorities, not just short-term impacts. That is why I was so pleased that the Affordable Care Act started this federal investment and home visitation programs, and

it is, in fact, an investment in the future health and well-being of all families in our country.

Your testimony references some of the research and evidence-based home visiting programs that shows they can lead to reductions in child abuse and injuries, improvements in educational outcomes for children, and even a reduction in needs-tested assistance over the long term for mothers. It is, therefore, reasonable to suggest that investment in strong home visiting programs will not only protect and help children, but also yield major benefits to society, and ultimately to taxpayers. Is that not correct?

Mr. BARON. Yes, that is right. Often there is a claim that a social program is so effective that you can improve people's lives and save money. Very often, when a rigorous evaluation is done, the effects are not quite so promising. The claim doesn't pan out.

But this is a case where, at least for some of the program models, like the Nurse-Family Partnership, and perhaps for Child First as well, the more effective models, it really does look like the evidence shows you can have your cake and eat it, too. You can improve people's lives in a very important way, over a long period of time, and reduce their use of public assistance, so that the government and taxpayer benefits, as well.

Mr. CROWLEY. Win-win. I appreciate that. It is clear that this program is making a difference, and we need to maintain that federal support.

I was pleased to see the President and his Administration have proposed a long-term extension expansion of this program. That is the kind of investment we should be making. Congress recently passed a short-term extension of this program, but it is clear that more must be done to build upon the success so far.

I look forward to working with my colleagues on both sides. I want to commend the chairman for a very bipartisan approach to this issue, as well. I really do appreciate that. I hope that my colleagues on both sides of the aisle on this Committee will work with us to support this program. And, once again, Mr. Chairman, thank you for holding the hearing today.

Chairman REICHERT. Thank you, Mr. Crowley. And, as you can see, and as Mr. Crowley said, this is really, truly a partnership up here, with Republicans and Democrats all appearing to be on the same page, wanting to help those that are most vulnerable. And I really—as an old cop—I know I mention this quite often, but I am proud to be, you know, an old law enforcement officer. But the evidence-based stuff is very critical, and you guys are doing an awesome job with that.

So, congratulations. Congratulations to you, Ms. Sucilla, and your success. And, thank you, Ms. Towne, for your hard work that you do each and every day. So, we are going to see each other again. We will visit again, and continue to work together.

If Members have additional questions for the witnesses, they will submit them to you in writing. And we would appreciate receiving your responses for the record within two weeks. The committee stands adjourned.

[Whereupon, at 3:30 p.m., the subcommittee was adjourned.]

[Member Questions for the Record follows:]

Jon Baron

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Congress of the United States
House of Representatives
COMMITTEE ON WAYS AND MEANS
WASHINGTON, DC 20515

SUBCOMMITTEE ON HUMAN RESOURCES

April 4, 2014

Jon Baron
President
Coalition for Evidence-Based Policy
1725 I Street, NW, Suite 300
Washington, D.C. 20006

Dear Mr. Baron:

Thank you for testifying at our April 2, 2014 Ways and Means Subcommittee on Human Resources hearing and for sharing your valuable expertise related to using evidence to evaluate programs. Because of time limitations, there were a few points you made during the hearing that we were unable to fully explore. I would like to ask you to provide the Subcommittee with additional information on these issues, and I have included two questions below that I hope you will answer in writing by April 18, 2014. As I mentioned at the end of the hearing, we will include your answers in the official hearing record.

Thank you again for your participation in our hearing, and I look forward to receiving your responses.

Sincerely,

Dave Reichert
Chairman

Questions for the Record
Hearing on the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program

1. Ensuring More Programs Operate Like the MIECHV Program

Your organization is focused on increasing the effectiveness of government. Given the demands on the federal budget, it's absolutely critical that we figure out what really works and direct our spending towards those programs. Especially because a large part of this Subcommittee's work focuses on helping children and families in need, we cannot afford to waste money on things that aren't working.

From what we've heard about the MIECHV program today, it is set up in a way that values evidence over anecdote. I understand there is some disagreement on exactly which programs should be considered "evidence-based," and that's an important question. But most of all, I am grateful that—at least for this program—we're actually discussing outcomes. We're discussing what programs actually do, based on good evidence, to get us to those outcomes we're seeking.

This evidence-based and outcome-focused approach is sorely lacking in almost every other social program run by the federal government. We spend money on programs that have no outcome goals. We spend money on programs that have never been evaluated. Sometimes, we even spend money on things that have made participants worse off than if they hadn't participated. We can't afford to do this any longer.

Given your experience, how can we apply this evidence-based, outcome-focused approach to other major entitlement programs within the Committee's Human Resources jurisdiction where it is currently absent? What steps should we take to get other programs operating in the same way the MIECHV program does?

2. Ideas to Improve the MIECHV Program

In your written and oral testimony, you noted that modest revisions could be made to the MIECHV program to ensure the most effective home visiting programs receive more funding and that "evidence-based" programs actually have meaningful results that make a real difference in the lives of children and families receiving these services. In your written testimony, you mention the standard of evidence required under the Department of Education's Investing in Innovation program as an example.

How would you suggest the evidence standard be changed in the current MIECHV statute to ensure models that have been proven to result in significant, meaningful outcomes are the ones that receive the most funding? What other changes might you recommend to ensure these MIECHV funds are spent in ways most likely to result in positive outcomes for those participating in home visiting programs funded with this money?

Jon Baron Response

Coalition for Evidence-Based Policy
A NONPROFIT, NONPARTISAN ORGANIZATION

President

Jon Baron
jbaron@coalition4evidence.org
(202) 683-8049

1725 I Street NW, Suite 300
Washington, DC 20006
www.coalition4evidence.org

April 16, 2014

The Honorable Dave Reichert
Chairman, Subcommittee on Human Resources
Committee on Ways and Means
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Reichert:

Thank you again for the opportunity to testify at the Subcommittee's April 2nd hearing on the Maternal, Infant, and Early Childhood Home Visiting Program (MIECHV). I'm writing in response to your follow-up questions about my testimony. The questions, along with my written responses, are as follows:

Question:

How can the Subcommittee apply the evidence-based approach used in MIECHV to major entitlement programs within the Subcommittee's jurisdiction? As noted in your letter, MIECHV's approach of using rigorous evidence of effectiveness as a central factor in determining which program models to fund is lacking in almost every other social program administered by the federal government.

Response:

- **A newly-enacted $200 million initiative in the Supplemental Nutrition Assistance Program (SNAP) shows how an evidence-based approach might work in a major entitlement program.**

  Specifically, section 4022 of the Agricultural Act of 2014 (Public Law 113-79) provides $200 million in mandatory funding for up to10 state pilot projects that provide employment and training assistance to SNAP program participants, designed to increase their workforce participation and reduce their reliance on public assistance. Importantly, the legislation requires a rigorous, independent evaluation of each pilot project, using program and control groups, to determine the project's impact on participants' employment, income, economic well-being, and use of public assistance. Similar demonstration-evaluations in welfare policy in the 1980s and 1990s successfully identified a set of program strategies that increased participants' economic well-being while reducing government spending, and had a major impact on federal and state welfare policy.[1]

- **Building on the SNAP and MIECHV approaches, we suggest the Subcommittee consider incorporating the following evidence-based provisions into major entitlement programs:**

  1. **Provide a modest amount of mandatory funding (similar to what was done in the SNAP initiative) for pilot projects designed to –**

     (a) **Improve participant outcomes without increasing the program's cost; or**
     (b) **Reduce the program's cost without loss of quality or impact on participants' well-being.**

[1] The welfare studies and their policy impact are summarized in: *Increasing the Effectiveness of Social Spending While Reducing Its Cost: An Evidence-Based Approach*, Testimony by Jon Baron before the House Ways and Means Subcommittee on Human Resources, July 2013 (link)

2. **For each project, require a rigorous (preferably randomized) impact evaluation, to determine whether it produces the hoped-for improvements in participants' lives and/or budget savings.**

3. **For projects found, in the above evaluations, to produce such improvements and/or savings, authorize the Secretary to fund/facilitate their larger-scale implementation with program funds** (while ensuring close adherence to the proven approach). We suggest that the legislation allow the administering federal agency to use waivers from law or regulation, where appropriate, to help advance such implementation. The legislation might also require OMB budget-scoring officials to confirm, based on the evaluation findings, that the project is indeed budget-neutral or budget-saving, before the agency can go forward with such implementation.

   Provision 3 would replicate a core feature of MIECHV that currently does not exist in federal entitlement programs: rigorous evidence of effectiveness determines which program strategies/approaches are put into large-scale implementation. Doing so would thereby inject a dynamic for evidence-driven improvements into a social spending process where evidence currently has little role.

Question:

How would you suggest the evidence standard be changed in the current MIECHV statute to ensure models that have been proven to result in significant, meaningful outcomes are the ones that receive the most funding?

Response:

- **As discussed in my testimony, MIECHV's current evidence standard contains a loophole that has allowed a number of unproven and/or ineffective program models to qualify as "evidence based."** Specifically, the current standard, as set out in detailed language in MIECHV's authorizing statute, focuses on whether rigorous evaluations have found that the model produced *statistically-significant* effects, but not on whether these effects have *policy or practical importance*. This has opened a loophole, allowing some models to qualify as evidence based solely on the basis of statistically-significant effects, even if those effects were –

  1. On intermediate or process measures (such as referrals to community services) that may never lead to ultimate, policy-important outcomes (such as parents' employment and earnings);

  2. So small in size as to be of little practical importance; or

  3. Likely to be chance findings (e.g., because the studies measured a large number of outcomes).

  Illustrative examples of models that have qualified as evidence based in MIECHV, based on such effects, are described in my written testimony.

- **We therefore recommend that Congress revise MIECHV's evidence standard to close this loophole, drawing on approaches that have been used in other legislation and programs.**

  Drawing on an evidence standard used in the Department of Education's Investing in Innovation Fund (described in my testimony), as well as that used in Congress' 2007 authorization of the pilot program for MIECHV,[2] we recommend that the Congress replace MIECHV's current standard for "evidence

[2] The Congressional evidence standard in the 2007 pilot was "well-designed randomized controlled trials, [demonstrating] sizeable, sustained effects on important child outcomes such as abuse and neglect." The Congressional language instructed HHS "to adhere closely to evidence-based models of home visitation and not to

based," whose complexity has helped created the above loophole, with a streamlined, rigorous standard as follows:

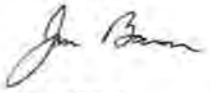
> *An "evidence-based" home visiting model is one that has been shown, in rigorous evaluations that allow for strong causal inferences, to produce statistically-significant, sizeable, and sustained effects on policy-important child and family outcomes (such as child maltreatment, K-12 student achievement, or family income), and not just intermediate outcomes (such as referrals to community services, or positive parenting practices) that may or may not ultimately lead to improvements in policy-important outcomes.*

Such a straightforward statement of principle would send a clear signal to HHS, MIECHV grant applicants, and the larger policy community, that Congress expects MIECHV to fund models backed by strong scientific evidence of policy-important (and not just statistically-significant) improvements in people's lives. As with MIECHV's current authorizing statute, the legislation could charge HHS with developing a more specific evidence standard within this statement of principle.

Because only a few home visiting models would currently meet this new standard, Congress might consider allowing HHS to allocate a portion of MIECHV funding for modest-sized grants to program models that are backed by moderate – but not yet strong – evidence of effectiveness, with a requirement that such models be rigorously evaluated. (This would be in addition to, or instead of, MIECHV's current allocation of up to 25% of its funds for models that are not evidence based.) If found effective, these models can become designated as evidence based and therefore eligible for larger, scale-up funding; if not, their funds would be redirected to other, more promising models. Over time, this would increase the number of evidence-based models, giving state and local grant applicants a larger menu of such models to choose from, and enabling MIECHV to effectively address a wider array of problems in a more diverse set of population groups that are at-risk. The Investing in Innovation Fund follows an approach similar to this, which could be implemented with appropriate adaptations in the MIECHV reauthorizing legislation.

I hope this is helpful in addressing your questions. Please let me know if you have additional questions or would like further information.

Sincerely,



Jon Baron

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incorporate any additional initiatives that have not met these high evidentiary standards or might otherwise dilute the emphasis on home visitation." (Public Law 110-161, and accompanying H. Rept. 110-424)

Rebecca Kilburn

DAVE REICHERT, WASHINGTON
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Congress of the United States
House of Representatives
COMMITTEE ON WAYS AND MEANS
WASHINGTON, DC 20515

SUBCOMMITTEE ON HUMAN RESOURCES

April 4, 2014

Rebecca Kilburn
Senior Economist
RAND Corporation
P.O. Box 2138
Santa Monica, CA 90407-2138

Dear Ms. Kilburn:

Thank you for testifying at our April 2, 2014 Ways and Means Subcommittee on Human Resources hearing and for sharing your valuable expertise related to using evidence to evaluate programs. Because of time limitations, there were a few points you made during the hearing that we were unable to fully explore. I would like to ask you to provide the Subcommittee with additional information on these issues, and I have included an additional question below that I hope you will answer in writing by April 18, 2014. As I mentioned at the end of the hearing, we will include your answers in the official hearing record.

Thank you again for your participation in our hearing, and I look forward to receiving your response.

Sincerely,

Dave Reichert
Chairman

Ensuring MIECHV Program Models Are Implemented Effectively

In your written and oral testimony, you pointed out that it's important for programs like MIECHV to focus funding on interventions that have been proven to work, instead of specifying what types of features a program should have. In your written testimony you go even further, saying you believe "consideration should be given to whether ongoing funding to particular states should be tied more closely to the state's implementation performance."

Under the current program structure, states receive funding to use on models that are based on evidence and that have shown success in high-quality studies. However, it's not clear that we know how well states are implementing the models they choose to administer. How might we implement a suggestion like yours, where the federal government also analyzes the state's performance in implementing the model successfully? Are there other programs that do this that we could review?

Rebecca Kilburn Response

Testimony

Evidence on Home Visiting and Suggestions for Implementing Evidence-Based Home Visiting Through MIECHV

Addendum

M. Rebecca Kilburn

RAND Office of External Affairs

CT-407/1

April 2014

Document submitted on April 16, 2014 as an addendum to testimony presented before the House Ways and Means Committee, Subcommittee on Human Resources on April 2, 2014

Published 2014 by the RAND Corporation
1776 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138
1200 South Hayes Street, Arlington, VA 22202-5050
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M. Rebecca Kilburn[1]
The RAND Corporation

Evidence on Home Visiting and Suggestions for Implementing Evidence-Based Home Visiting Through MIECHV[2]

Before the Committee on Ways and Means
Subcommittee on Human Resources
United States House of Representatives

April 16, 2014

The subsequent question and answer found in this document was received from the Committee for additional information following the hearing on April 2, 2014 and were submitted for the record.

Response to Question from Chairman Dave Reichert, Subcommittee on Human Resources, Committee on Ways and Means

Thank you for the opportunity to testify before the Ways and Means Subcommittee on Human Resources on April 2. In your letter of April 4, you asked me to respond to this follow-up inquiry:

QUESTION:

Ensuring MIECHV Program Models Are Implemented Effectively

In your written and oral testimony, you pointed out that it's important for programs like MIECHV to focus funding on interventions that have been proven to work, instead of specifying what types of features a program should have. In your written testimony you go even further, saying you believe "consideration should be given to whether ongoing funding to particular states should be tied more closely to the state's implementation performance."

Under the current program structure, states receive funding to use on models that are based on evidence and that have shown success in high-quality studies. However, it's not clear that we know how well states are implementing the models they choose to administer. How might we implement a suggestion like yours, where the federal government also analyzes the state's performance in implementing the model successfully? Are there other programs that do this that we could review?

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[1] The opinions and conclusions expressed in this testimony are the author's alone and should not be interpreted as representing those of RAND or any of the sponsors of its research. This product is part of the RAND Corporation testimony series. RAND testimonies record testimony presented by RAND associates to federal, state, or local legislative committees; government-appointed commissions and panels; and private review and oversight bodies. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

[2] This testimony is available for free download at http://www.rand.org/pubs/testimonies/CT407z1.html.

ANSWER:

My suggestion to tie state funding more closely to a state's implementation performance was oriented toward improving the monitoring of implementation indicators in addition to monitoring fidelity to evidence-based program models.

Fidelity refers to the degree to which an intervention is implemented as it was prescribed in the evidence-based practice protocols by the program developers. Implementation is the entire set of activities required to successfully put into place an evidence-based program and includes fidelity along with other implementation outcomes such as costs, and recruitment and retention rates of clients (Proctor et al., 2011).

Regarding fidelity, the MIECHV program currently recognizes the importance of grantees delivering evidence-based models with fidelity and requires grantees to demonstrate fidelity as follows:

> "To ensure that the required statutory distribution is maintained, HRSA requires that all MIECHV programs demonstrate that they are being delivered in conformity with the approved service delivery models. This fidelity is demonstrated by programs that have the requisite designation and/or approval from a model developer to provide evidence-based home visiting services. MIECHV-funded programs must maintain the requisite designation and/or approval from the model developer while receiving MIECHV funding." [See MIECHV guidance at: http://ersrs.hrsa.gov/ReportServer?/HGDW_REPORTS/FindGrants/subrptEHB_GranteeFindProgramDesc&rc:ToolBar=false&theWhere= and PROG_ACTIVITY_CD='X02'].

It is not clear how well different models ensure fidelity, however. In fact, on the MIECHV evidence-based model website (http://homvee.acf.hhs.gov/ImpOverview.aspx), a summary table for the models indicates that five of the 14 evidence-based models do not have fidelity standards for local implementing agencies and three of the 14 do not have a system for monitoring fidelity.

There may be opportunities to improve the monitoring of MIECHV grantees' evidence-based model implementation in areas in addition to fidelity. Implementation performance is typically monitored using indicators that capture how well an organization delivers a service. Measuring implementation performance is valuable, because it indicates whether services are being delivered as intended, reaching target participants, being delivered with desired timeliness and frequency, and meeting other assurances that an evidence-based program is being delivered in a way that has the best chance of realizing the outcomes achieved in the model program

evaluations.[3] Examples of the types of indicators that may be used for this purpose in the home visiting field are number of families served, number of home visits provided, family drop-out rates, home visitors completing the model program training, and others.

Currently MIECHV grantees report a great deal of information as part of their award. They report a small number of process measures as part of the Demographic and Service Utilization Data for Enrollees and Children Form (available at: http://mchb.hrsa.gov/programs/homevisiting/ta/resources/enrolleeschildrenform.pdf). Grantees also provide a brief performance report, which includes explaining reasons for delays or unusually high unit costs (described here: http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=a5e0bcbce193608ad376c11cec960a54&n=45y1.0.1.1.49.3&r=SUBPART&ty=HTML#45:1.0.1.1.49.3.18.19). Finally, MIECHV grantees also report a large number of outcome measures for participating children and families (see: http://mchb.hrsa.gov/programs/homevisiting/ta/resources/guidanceoct2012.pdf).

However, there are opportunities for improvement in specifically capturing *implementation* measures in two areas.

First, there appear to be ways to refine the indicators reported to improve their utility in communicating whether grantees are engaging in the desired quantity and quality of home visiting implementation. That is, while MIECHV grantees currently report a large number of indicators, we want to ensure that they are reporting the *right* indicators. This may not require an increase in the amount of information reported but rather modest improvements in the indicators reported for the purposes of assessing implementation performance.

Second, it is not only the collection of appropriate indicators that is important, but it is also necessary to use them explicitly to improve performance of grantees. Specifically, just as funding evidence-based models raises the chances that MIECHV funds will have their intended impact, so does funding grantees that can deliver evidence-based models *well*. It is reasonable to expect that the first phase of MIECHV would be a learning and planning phase for many states and other grantees (Fixsen et al., 2001) as research demonstrates that initiating a new program requires adequate time and community investment to ensure implementation success. However, in later phases of MIECHV, we may be able to promote the effectiveness of the MIECHV program by directing technical assistance to grantees that are not able to meet implementation objectives (e.g., recruitment goals and retention rates) or eventually redirecting funding only to grantees that

[3] This brief description of process evaluation from the federal Substance Abuse and Mental Health Services Administration provides a good overview of process evaluation: http://captus.samhsa.gov/access-resources/using-process-evaluation-monitor-program-implementation.

are able to serve target numbers of families, maintain high rates of family retention, meet the workplan objectives of expansion or development grants, or attain other measures of implementation performance. As an example, when funding evidence-based adolescent substance abuse treatment, the Substance Abuse and Mental Health Services Administration (SAMHSA) has used implementation performance indicators to identify grantees that need additional technical assistance to improve their implementation, and performance information was also considered in awarding future grants (Godley et al., 2011).

Please let me know if I can provide further information on this issue.

References

Fixsen, D. L., Blase, K. A., Timbers, G. D., & Wolf, M. M. (2001). "In search of program implementation: 792 replications of the Teaching-Family Model," In G. A. Bernfeld, D. P. Farrington & A. W. Leschied (Eds.), *Offender rehabilitation in practice: Implementing and evaluating effective programs*, 149-166, London: Wiley.

Godley, S. H., Garner, B. R., Smith, J. E., Meyers, R. J., & Godley, M. D. (2011). "A Large-Scale Dissemination and Implementation Model for Evidence-Based Treatment and Continuing Care," *Clinical Psychology: Science and Practice*, 18(1), 67-83.

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., & Hensley, M. (2011). "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research*, 38(2), 65-76.

[Public Submission for the Record follows:]

Scott Hippert Parents as Teachers

Parents as Teachers

April 8, 2014

The Honorable Representative Danny Davis
House of Representatives
Washington, D.C. 20510

Dear Representative Davis,

I am writing to voice my concern regarding testimony for the April 2 House Ways and Means Committee hearing on the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program. In his written testimony, witness Jon Baron, President of the Coalition for Evidence-Based Policy, included a direct negative reference to Parents as Teachers (PAT), when he cited it as a program that "produced no important effects one way or the other." I believe we were singled out unfairly, and we would like the opportunity to paint the full picture of the important results PAT has produced over the last three decades and the critical role it plays in the MIECHV program.

Parents as Teachers has a strong 30-year history of providing parenting education and family engagement services, and now reaches families in all 50 states and more than 100 tribal communities. PAT's approach and curriculum support the most vulnerable families and has demonstrated outcomes in child development and school readiness, family economic self-sufficiency, positive parenting practices and reductions in child maltreatment. PAT has been chosen by local communities and agencies in 30 states and 13 tribes to provide these services with MIECHV funds.

PAT delivers an evidence-based approach for home visiting and supports federal investments in interventions that deliver results. Through its Home Visiting Evidence of Effectiveness (HomVEE) review, the Department of Health and Human Services conducted a thorough and transparent review of the home visiting research literature and provided an assessment of the evidence of effectiveness for home visiting program models that target families with pregnant women and children from birth to age 5. Parents as Teachers meets the HomVEE criteria, with favorable outcomes in four of the six measured outcome domains. PAT also had the lowest average cost per family compared to several other home visiting models in a recent Mathematica Policy Research study.

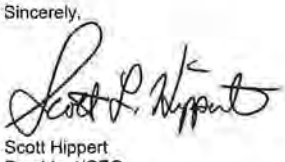
Additionally, Parents as Teachers' MIECHV programs, along with three other models, currently are being rigorously evaluated through the MIHOPE study. PAT also is engaged in a rigorous evaluation of implementation in tribal communities through a Department of Education Investing in Innovations grant. Finally, in addition to the statistically significant results from four randomized control trials, we have 23 years of independent evaluations of home-based PAT programs that demonstrate the effectiveness of our approach, and local and state evaluations have found positive

results in outcomes relevant to school success, including school achievement, attendance and out-of-school suspension.

Unlike other models which serve only first-time moms, single parent or teens, PAT affiliates engage with families in a much broader way. We work with families as early as during pregnancy and on through kindergarten entry. Our program is culturally adaptable to work in many different environments. In short, we engage with a broader array of families, in ways that are best-suited to their family environment, and over a longer period of time, to ensure greater depth of knowledge and increased likelihood of continued positive outcomes.

We could not be more proud of our history, our effectiveness with families, and our evidence-based model.

Sincerely,



Scott Hippert
President/CEO
Parents as Teachers

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