



Early Childhood Home Visitation Programs in Arizona: A Benefit-Cost Analysis



Dr. Anthony Evans

*L. W. Seidman Research Institute
W. P. Carey School of Business
Arizona State University*

John A. Shoemaker, MPH

*Morrison Institute for Public Policy
School of Public Affairs, College of Public Service & Community Solutions
Arizona State University*

Report Produced On Behalf Of:





**150 N 18th AVE, SUITE 320
Phoenix AZ 85003
www.Strongfamiliesaz.com**

**Funded by
U.S. Department of Health and Human Services Administration
Maternal and Child Health Bureau Grant D89MC23140**

Published February 2016

For additional copies and further information, please contact:

**Dr. Anthony Evans
Seidman Research Institute
660 S Mill Ave, Ste 300
Tempe AZ 85281
www.seidmaninstitute.com**

EXECUTIVE SUMMARY

This study estimates that Arizona receives \$1.87 in benefits for every \$1 collectively invested in evidence-based early childhood home visitation programs.

The analysis was implemented by the Seidman Research Institute, in association with the Morrison Institute for Public Policy, both at Arizona State University.

The study was funded through the Maternal, Infant and Early Childhood Home Visiting (MIECHV) grant¹ and is part of an ongoing effort to build an effective and long-lasting early childhood health and development system that will make it easier for families to raise young children to achieve their fullest potential.

Seven evidence-based early childhood programs administered by the state of Arizona are included in the study: Early Head Start, Family Spirit, Healthy Families Arizona, Healthy Steps, Nurse-Family Partnership, Parents as Teachers, and SafeCare Augmented.

In 2014, 10,971 families participated in these seven programs, at a combined cost of \$37,465,605.

To estimate the combined return on investment for all seven programs, the research team utilized the latest estimates of total benefits and total costs by program. Monetization of total benefits is drawn from a comprehensive review of national studies maintained by the Washington State Institute for Public Policy (WSIPP). To estimate the total costs of participation, Arizona-specific cost data from 2014 is sourced from the three agencies and extrapolated based on the average duration of each program.

The study concludes that the benefits of implementing evidence-based early childhood home visitation programs in Arizona significantly outweigh the costs.

¹ Funding source: U.S. Department of Health and Human Services Administration, Maternal and Child Health Bureau Grant D89MC23140.

Contents

1.0 INTRODUCTION.....	1
1.1 Introduction to Benefit-Cost Analysis.....	1
1.2 Study Purpose.....	2
1.3 Overview of Arizona Evidence-Based Home Visiting Programs.....	3
2.0 METHOD, ASSUMPTIONS & DATA.....	6
2.1 Costs of Arizona’s Evidence-Based Early Childhood Home Visiting Programs in 2014.....	6
2.2 Assessing the Total Benefits of Evidence-Based Early Childhood Home Visitation Programs.....	7
3.0 RESULTS.....	9
3.1 Arizona’s Total Return on Investment.....	9
3.2 Sensitivity of the Estimate to Changes in Monetized Benefits.....	9
4.0 SUMMARY.....	10
BIBLIOGRAPHY.....	11

List of Tables

Table 1: Total Costs and Family Participation Data by Program in SFY2014.....	6
Table 2: WSIPP Home-Based Benefit-Cost Analyses (2014 \$).....	8

1.0 INTRODUCTION

1.1 Introduction to Benefit-Cost Analysis

A benefit-cost analysis is a means of summarizing the positive and negative consequences of an action, and weighing these results up against one another. It is primarily used as a means to evaluate the feasibility of a project or investment when comparing the total cost against the total benefits. The end goal of a benefit-cost analysis is a prediction of the extent to which the benefits of a decision outweigh its costs, and by how much relative to other alternatives. This prediction is usually expressed in one of two ways: as a benefit-cost ratio, or in the form of a payback period.²

A benefit-cost analysis assumes that a monetary value can be placed on all the costs and benefits of a program, including tangible and intangible returns to people and organizations that are not directly impacted. It therefore extends beyond the direct financial outlays associated with an investment or decision and takes into account the social costs and benefits. A major advantage of a benefit-cost analysis is that it encourages people to consider these factors as part of initial strategic decision making.

Practical development of benefit-cost analysis in the U.S. is usually associated with the Flood Control Act of 1936, which proposed a feasibility test for flood control projects in which the benefits “to whomsoever they accrue” had to exceed costs. From the 1950s onwards, economists have tried to develop a rigorous, consistent set of methods to weigh up a definitive list of total costs and total benefits that assist to determine the economic viability of a project. A law passed in 1993 requires that every regulatory proposal, even those mandated by Congress, undergo at least one benefit-cost analysis before being approved.

There are three basic steps on how benefit-cost analyses are used to evaluate the desirability of investments or decisions:

1. Identify all of the costs and benefits associated with a particular investment or decision.
2. Express these costs and benefits in a common measurement unit in a specific time (for example, 2014 dollars).³
3. Calculate the payback time or benefit-cost ratio.⁴

² A payback period is the time it takes for total benefits to repay total costs.

³ The valuation of total costs and total benefits must reflect actual consumer preferences based on prior choices; and the future expected streams of costs and benefits must be converted into a present monetary value amount using a discount rate.

⁴ For example, if the total costs of a 1 year program are \$40,000 and the total benefits are \$60,000, the pay-back period could be calculated as \$40,000/\$60,000 which is equivalent to 8 months. An alternative way of comparing the benefits and costs is a benefit cost ratio which, in this example, is equivalent to \$1.50 benefit for every \$1 invested.

1.2 Study Purpose

The purpose of this study is to provide a benefit-cost analysis of evidence-based early childhood home visitation programs available in Arizona. The study was funded through the Maternal, Infant and Early Childhood Home Visiting (MIECHV) grant⁵ as part of an ongoing effort to build an effective and long-lasting early childhood health and development system that will make it easier for families to raise young children to achieve their fullest potential.



Studies have shown that a child's experiences in the first few years of life are critical.⁶ Home visiting provides families the opportunity to take part in parent education programs delivered by trained educators within the comforts of their own home. Program involvement for families is completely free, and participation is voluntary. Participating families experience increased opportunities for support, and are connected to local resources and family programs.

The study focuses on the benefits and costs of seven programs designated as evidence-based home visiting models by the U.S. Department of Health and Human Services' Home Visiting Evidence of Effectiveness (HomVEE) review process. They are:

- Early Head Start;
- Family Spirit;
- Healthy Families;
- Healthy Steps;
- Nurse-Family Partnership;
- Parents as Teachers; and
- SafeCare Augmented.

The seven programs are managed by three state agencies: the Arizona Department of Health Services (ADHS), the Arizona Department of Child Safety (DCS) and First Things First (FTF).⁷ Arizona provides additional evidence-informed home visiting programs, but MIECHV funding is limited to programs designated as evidenced-based.

⁵ Funding source: U.S. Department of Health and Human Services Administration, Maternal and Child Health Bureau Grant D89MC23140.

⁶ For example: American Academy of Pediatrics, (2014); Anda, RF, Felitti, VJ, Bremner, JD, et al., (2006); Felitti, VJ, Anda, RF, Nordenberg, D, et al., (1998); and Center on the Developing Child at Harvard University, (2015).

⁷ Six other early childhood home visiting programs are also offered in t Arizona. These are the Arizona Department of Education's Migrant Education Program; the Arizona Department of Health Services' Health Start and Newborn Intensive Care Program/High Risk Pregnancy Programs; the Arizona Department of Economic Security's Arizona Early Intervention Program; and First Things First's Early Steps to School Success and Growing Great Kids programs. However, all six programs are currently not designated as evidence-based home visiting models by HomVEE, thereby resulting in their exclusion from the current study.

1.3 Overview of Arizona Evidence-Based Home Visiting Programs

Early Head Start is a federally funded program for low-income pregnant women and families with infants or toddlers up to three years old.⁸ Its purpose is to enhance children's development and health and strengthen families. Children older than three may transition to the Head Start program. The goals of Early Head Start are as follows:

- Provide safe and developmentally enriching caregiving which promotes the physical, cognitive, social and emotional development of infants and toddlers and prepares them for future growth and development.
- Support parents in their role as primary caregivers and teachers of their children.
- Support families to achieve self-sufficiency.
- Mobilize communities to provide the resources and environment necessary to ensure a comprehensive, integrated array of services and supports for families.
- Ensure services are high quality and responsive to the family through development of trained, caring staff.

Family Spirit is a culturally tailored home-visiting program delivered by Native American paraprofessionals to support young Native American parents from pregnancy until their child's third birthday.⁹ Designed and implemented by the John Hopkins Center for American Indian Health in partnership with the Navajo, White Mountain Apache, and San Carlos Apache Tribes, Family Spirit consists of 63 lessons primarily delivered at home. The goals of Family Spirit are as follows:

- Increase parenting knowledge and skills.
- Address maternal psychosocial risks that could interfere with positive child-rearing (e.g., drug and alcohol use; depression; low education and employment; domestic violence problems).
- Promote optimal physical, cognitive, social/emotional development for children from birth to three.
- Prepare children for early school success.
- Ensure children receive recommended well-child visits and health care.
- Link families to community services to address specific needs.
- Promote parents' and children's life skills and behavioral outcomes across the lifespan.

Healthy Families is designed to enhance parent-child relationships, optimize child health and development, build on family strengths, and prevent child abuse and neglect. Arizona's program began in 1991 to help expectant and new parents get their children off to a healthy start. Families voluntarily choose to participate and may remain until the child turns five years old. The intensity of services is based

⁸ Sources: <http://www.azheadstart.org/earlyheadstart.php>, <http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/ehsnrc>, <http://homvee.acf.hhs.gov/Implementation/3/Early-Head-Start-Home-Visiting--EHS-HV-/8/1> and <http://strongfamiliesaz.com/program/early-head-start/>

⁹ Sources: <http://www.jhsph.edu/research/affiliated-programs/family-spirit/>, <http://strongfamiliesaz.com/program/family-spirit-home-visiting-program/> and <http://homvee.acf.hhs.gov/Implementation/3/Family-Spirit-sup---sup-/60/1>

on each family's needs, beginning weekly and moving gradually to quarterly home visits as families become more self-sufficient. The Department of Child Safety serves as the Central Administration for all Healthy Families programs provided in Arizona. The goals of Healthy Families are as follows:

- Link families with community services, health care, child care, and housing.
- Encourage self-sufficiency through education and employment.
- Provide child development, nutrition, and safety education.
- Teach and support positive parent-child interaction and discipline.
- Provide periodic developmental assessments and referrals if indicated.
- Provide support and encouragement to parents.

Healthy Steps is a national initiative that emphasizes a close relationship between health care professionals and parents to address the physical, emotional, and intellectual growth and development of children from birth to age three.¹⁰ The goals of Healthy Steps are as follows:

- Offer voluntary home visits at birth and key developmental stages.
- Ensure well-child visits with a clinician and Healthy Steps specialist.
- Host a dedicated parent telephone information line.
- Provide child development education and family health check-ups.
- Distribute age-appropriate books for parents to read to their children.
- Hold parent support groups.
- Refer children and parents for specialized services (e.g., speech or hearing specialists; maternal depression counseling).

Nurse-Family Partnership is a voluntary health program in which nurses assist first-time mothers living in poverty to improve their lives and the lives of their children.¹¹ Developed by Dr. David Olds, the program offers voluntary intensive visitation during a woman's pregnancy and the first two years after birth. Its purpose is to promote positive child development, and provide support and instructive parenting skills. The program follows a nationwide model that has been implemented in Arizona since 2006. The goals of Nurse Family Partnership are as follows:

- Improve pregnancy outcomes by helping women develop good preventive health practices, including prenatal care, a healthy diets and reduced use or cessation of cigarettes, alcohol and illegal substances.
- Improve child health and development by helping parents provide responsible and competent care.

¹⁰ Sources: <http://healthysteps.org/> and <http://homvee.acf.hhs.gov/Implementation/3/Healthy-Steps--National-Evaluation-1996-Protocol-/12/1>

¹¹ Sources: <http://www.nursefamilypartnership.org>, <http://strongfamiliesaz.com/program/nurse-family-partnership/> and <http://homvee.acf.hhs.gov/Implementation/3/Nurse-Family-Partnership--NFP--sup---sup-/14/1>

- 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.

Parents as Teachers is a voluntary home visiting program for pregnant women and parents with children from birth to five years old. It has been offered in Arizona since 1998.¹² Parents as Teachers trains parent educators who, in turn, provide services to families. Families are visited monthly by the parent educator who seeks to ensure that children are ready to learn by the time they go to school. Services offered include health and developmental screenings for children; parent group meetings with free child care; parenting instruction and coaching; budgeting, nutrition, and household management; and community resources support. The goals of Parents as Teachers are as follows:



- Provide information, support and encouragement for parents so they can help their children develop optimally during the crucial early years of life.
- Increase parent knowledge of early childhood development and improve parenting practices.
- Provide early detection of developmental delays and health issues.
- Prevent child abuse and neglect.
- Increase children's school readiness and school success.

SafeCare Augmented is a training curriculum for parents who are at risk or have been reported for child maltreatment with a child from birth to age five. Home visitors work with at risk families on how to plan and implement activities with their children, respond appropriately to child behaviors, improve home safety, and address health and safety issues. It lasts 18-20 weeks and is offered in one location in Arizona in Tucson. The goals of SafeCare Augmented are as follows:

- Prevent and address factors associated with child abuse and neglect.
- Increase parent-child interaction and use of planned activities.
- Promote infant and child health.
- Provide training about home safety to reduce home hazards.
- Reduce recurrence of child maltreatment.

¹² Sources: <http://azpartnershipforchildren.org/parentsAsTeachers.htm>, <http://strongfamiliesaz.com/program/parents-as-teachers/> and <http://homvee.acf.hhs.gov/Implementation/3/Parents-as-Teachers--PAT--sup---sup-/16/1>

2.0 METHOD, ASSUMPTIONS & DATA

2.1 Costs of Arizona’s Evidence-Based Early Childhood Home Visiting Programs in 2014

The direct costs associated with home visiting includes salaries, administration, marketing, professional development, and all program/service delivery expenditure. These costs were provided by the ADHS, DCS and FTF.

Table 1 below illustrates the costs and family participation numbers for the seven evidence-based programs included within the Arizona benefit-cost study for state fiscal year 2014 (SFY2014). Participating family data for SFY2014 was sourced from “The Arizona Home Visiting Index Report” produced by the Morrison Institute for Public Policy in March 2015.¹³

Table 1 illustrates the cost of providing seven programs to 10,971 families in SFY2014 alone as \$37.5 million.¹⁴ This translates into an average cost of \$3,415 per family for one year’s participation in a program.

Table 1: Total Costs and Family Participation Data by Program in SFY2014

Evidence-Based Program	Funding Agencies	Total Participating Families	Total Costs (2014 \$)	Average Cost per Family (2014 \$)
Early Head Start ¹⁵	FTF	46	\$286,011	\$6,218
Family Spirit	ADHS	39	\$459,112	\$11,772
Healthy Families Arizona	ADHS, DCS, FTF	4,910	\$18,481,142	\$3,764
Healthy Steps	FTF	50	\$117,131	\$2,343
Nurse-Family Partnership	ADHS, FTF	1,322	\$6,780,320	\$5,129
Parents as Teachers	FTF	4,545	\$11,185,284	\$2,461
SafeCare Augmented	FTF	59	\$156,605	\$2,654
Total		10,971	\$37,465,605	\$3,415

Sources: ADHS, DCS, FTF, and Morrison Institute for Public Policy, ASU (2015)

¹³ The costs and participant numbers for ADHS-administered programs listed in Table 1 are for *federal* fiscal year 2014.

¹⁴ Please note, the costs shown in Table 1 are for SFY2014 only, and in most instances will not reflect the total costs of participation for the duration of a program.

¹⁵ The Arizona Department of Education (ADE) also manages an Early Head Start program, serving 1,852 families in Arizona in 2014, as part of a wider Head Start initiative. This is excluded from the current benefit-cost analysis because there is no simple and objective way to separate the shared costs for ADE’s implementation of Early Head Start within the Head Start State Collaboration grant received from the U.S. Department of Health and Human Services.

2.2 Assessing the Total Benefits of Evidence-Based Early Childhood Home Visitation Programs

Long-term, multi-year outcome data for participating families is required to arrive at a comprehensive and valid assessment of the total benefits for each program. The complexity of evaluating early childhood home visitation programs is compounded by the fact that they encompass a wide range of interventions, differing by type of eligible family, targeted outcomes, type of staff involved (e.g., nurses, social workers or paraprofessionals), length and intensity of services, and recruitment methods.¹⁶

Because this data has not been compiled in Arizona specifically, the research team drew from a series of program-specific benefit-cost analyses published by the Washington State Institute for Public Policy (WSIPP) in July 2015. WSIPP is responsible for one of the most comprehensive benefit-cost databases for U.S. evidence-based public policies. Working closely with legislators, legislative staff, and state agency staff, WSIPP calculates the expected return on investment (consisting of a net present value and benefit-cost ratio) for a diverse range of public policies. Their work is based on a meta-analysis of high quality U.S. studies to identify effective policy options that achieve measurable improvements in outcomes. The meta-analysis is a study of studies, resulting in a “weight of evidence summary”¹⁷ of individual program evaluations. A more detailed overview of WSIPP’s methods is summarized in a Technical Appendix to this study, available on request from the Seidman Institute. WSIPP’s method is also available in full on the WSIPP website.¹⁸

WSIPP offers estimates of total costs and benefits, culminating in benefit-cost ratios for five of the seven evidence-based early childhood home visiting programs in the study. These are: Early Head Start, Healthy Families, Nurse-Family Partnership, Parents as Teachers, and SafeCare Augmented.

WSIPP also offers an average assessment of total benefits and costs, culminating in a benefit-cost ratio, for all other evidence-based early childhood home-visiting programs. In the absence of program-specific evaluations for Family Spirit and Healthy Steps in the WSIPP database, this general assessment is used as a proxy for the return on investment associated with both programs.

Table 2 includes total program cost analyses expressed in 2014 dollars, and WSIPP’s estimated average program duration for participating families. The cost of implementing early childhood home visitation programs varies from state to state. For example, the net present value¹⁹ of program costs for five of the seven programs studied in Arizona ranges from 14.5% less to 38.2% more than the values used by WSIPP.²⁰

To estimate the total statewide return on investment, the research team applied WSIPP’s 2014 estimate of total benefits by program to the present value of total Arizona-specific program costs for all

¹⁶ Source: Sweet and Applebaum, (2004).

¹⁷ The Weight of Evidence is a widely used measure of the “strength” of a grouping for separating good and bad risk (default). It is computed from the basic odds ratio: *(Distribution of Good Credit Outcomes) / (Distribution of Bad Credit Outcomes)*.

¹⁸ WSIPP’s 210-page Benefit-Cost Technical Documentation, updated in July 2015, is available on their website: <http://www.wsipp.wa.gov/TechnicalDocumentation/WsippBenefitCostTechnicalDocumentation.pdf>

¹⁹ Net present value is the difference between the present value of total benefits and the present value of total costs.

²⁰ This is based on the assumption that the average program duration in Arizona is consistent with the WSIPP database.

participating families in 2014. The present value of program costs in Arizona replicates WSIPP’s average program durations in conjunction with a 3.5% discount rate.²¹ The benefit-cost ratio estimate produced by this method encompasses both the total cost of the entire program, and the long-term benefits participants receive into adulthood. For example, reading from Table 2, a family will participate in a Nurse Family Partnership program on average for 1.68 years at a total cost of \$9,993 for the lifetime of their participation. This will generate an estimated \$28,878 in long-term benefits accrued into adulthood, thereby generating \$18,885 more in benefits than the total cost of their participation.

Table 2: WSIPP Home-Based Benefit-Cost Analyses (2014 \$)

	Early Head Start	Healthy Families America	Nurse-Family Partnership ²²	Parents as Teachers	SafeCare Augmented	General Home Visiting Program
Literature Review²³	April 2012	April 2012	April 2012	April 2012	April 2012	April 2012
Total Benefits²⁴	(\$1,758)	\$5,038	\$28,878	\$7,175	\$6,326	\$6,848
Total Costs²⁵	\$10,935	\$4,767	\$9,993	\$2,671	\$2,088	\$5,836
Net Present Value²⁶	(\$12,693)	\$271	\$18,885	\$4,505	\$4,238	\$1,016
Benefit-Cost Ratio²⁷	\$0.16	\$1.06	\$2.89	\$2.69	\$3.03 ²⁸	\$1.17
Program Duration²⁹	1.75 years	1.18 years	1.68 years	1.5 years	1 year	2 years

Source: WSIPP (July 2015)



²¹ A discount rate is used to determine the present value of future cash flows. The discount rate takes into account not just the time value of money, but also the risk or uncertainty of future cash flows. The greater the uncertainty of future cash flows, the higher the discount rate. The 3.5% discount rate used in this analysis is consistent with the rate implemented by WSIPP in their benefit-cost analyses.

²² This is for low income families only.

²³ This is the publication date of latest early childhood home visitation program study analyzed by WSIPP.

²⁴ This is a monetization of the long-term benefits a participant receives into adulthood.

²⁵ This is a monetization of the direct costs associated with home visiting for the lifetime of a family’s participation in the program. It includes salaries, administration, marketing, professional development, and all program/service delivery expenditure.

²⁶ This is the difference between the present value of total benefits and the present value of total costs.

²⁷ This is an estimate of the amount of benefit received for every \$1 invested in an early childhood home visitation program.

²⁸ The benefit-cost ratio for SafeCare Augmented reported by WSIPP in July 2015 is significantly lower than the ratio of \$14.65 previously reported in April 2012 by WSIPP and still used in SafeCare promotional literature today (e.g. <http://safecare.publichealth.gsu.edu/files/2015/04/Overview-of-SafeCare-brochure-3-16-15.pdf>). The change is due in no small measure to the higher costs associated with the program at that time.

²⁹ This is WSIPP’s estimated average duration of participation in a specific evidence-based early childhood home visitation program.

3.0 RESULTS

3.1 Arizona's Total Return on Investment

To calculate a benefit-cost ratio for early childhood home visitation, the research team applies WSIPP's present value of total benefits to SFY2014 participant and extrapolated cost data for Arizona. This benefit-cost ratio is based on:

- Estimated total costs of \$51,449,401 (2014 \$) for all 10,971 families for the *duration* of their participation in each program;³⁰
- Estimated total benefits of \$96,425,509 (2014 \$) for all 10,971 families participating in Arizona in SFY2014, including benefits subsequently received into adulthood;³¹
- A net present value of \$44,976,107 (2014 \$) for all 10,971 Arizona families participating in SFY2014.³²

Using the data above, the research team estimates that Arizona receives \$1.87 in benefits for every \$1 invested in the seven evidence-based early childhood home visitation programs included in this study. That is, the benefits for all seven evidence-based early childhood home visitation programs combined are worth almost twice the value of Arizona's total investment in those programs.

3.2 Sensitivity of the Estimate to Changes in Monetized Benefits

The \$1.87 estimate takes into account a literature review published up to April 2012 (see Table 1). Two studies published by Miller examining Nurse-Family Partnership in California and New York have been published since that literature review. The program-specific benefits published in Miller's latest studies differ in terms of type and/or monetary value to the benefits currently listed by WSIPP and used by the research team in this analysis. For example, in his latest evaluations, Miller offers a more detailed assessment of monetary gains associated with Nurse Family Partnership which extends beyond state and federal government resource cost savings to workplace benefits and quality of life enhancements.³³

If WSIPP modifies future iterations of their benefit-cost database based on the validity of these and other new findings, the benefit-cost estimate for Arizona may be higher. That is, the \$1.87 benefit-cost ratio could represent a *conservative* estimate.

³⁰ Table 1's costs are for the implementation of each program in SFY2014 alone. However, the average duration of six of the seven programs is longer than a year. The \$51.5 million estimated total cost is based on the average, multi-year duration of a family's participation in a program.

³¹ This is an estimate of the lifetime benefits of participation in each program, based on WSIPP national research. Monetized benefits vary by program, and include reductions in child abuse and neglect, crime, property loss, and public assistance. Potential benefits also include enhanced outcomes for child and parent education, health, and labor market earnings.

³² Net present value is the difference between the present value of total benefits and the present value of total costs.

³³ For example, a reduction in infant mortality associated with Nurse Family Partnership could reduce workplace absenteeism (e.g. fewer parents absent on compassionate leave) and increase the number of people willing and able to work in the future. Miller's monetization of quality of life benefits reflects any positive lifestyle improvement for participating families. It also includes the savings associated with nonparticipants, who can avoid becoming victims of crime through the participation of at-risk families in home visitation programs.

4.0 SUMMARY

This study estimates that Arizona realizes \$1.87 in benefits for every \$1 collectively invested in seven evidence-based early childhood home visitation programs managed by three state agencies. (ADHS, DCS, and FTF).

The seven programs included in this assessment are Early Head Start, Family Spirit, Healthy Families Arizona, Healthy Steps, Nurse-Family Partnership, Parents as Teachers, and SafeCare Augmented. In 2014, 10,971 families participated in these programs at a combined cost of \$37,465,605 for that year alone.

Arizona does not have long-term outcome data for participating families. To calculate the combined return on investment, the research team therefore utilized WSIPP's latest estimate of total benefits by program in conjunction with an extrapolation of state-specific costs and participation numbers.

The investment calculation is sensitive to changes in the cash value of benefits; and therefore potentially underestimates the monetary value of some benefits. If this holds true, the research team's \$1.87 benefit-cost ratio will be a *conservative* estimate.

Even with the conservative estimate, the benefits are worth almost twice the value of Arizona's total investment in evidence-based early childhood home visitation programs.



BIBLIOGRAPHY

- American Academy of Pediatrics, (2014). *Adverse childhood experiences and the lifelong consequences of trauma*. Available at: https://www.aap.org/en-us/Documents/ttb_aces_consequences.pdf
- Anda, RF, Felitti, VJ, Bremner, JD, Walker, JD, Perry, BD, Dube, SR, and Giles, WH, (2006). The Enduring Effects of Abuse and Related Adverse Experiences in Childhood. A Convergence of Evidence from Neurobiology and Epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, Vol. 256 (3), pp 174–186.
- Aos, S, Lieb, R, Mayfield, J, Miller, M, and Pennucci, A, (2004). *Benefits and Costs of Prevention and Early Intervention Programs for Youth*. Washington State Institute for Public Policy, Document No. 04-07-3901. September 17, 2004.
- Center on the Developing Child at Harvard University, (2015). How Early Experiences Alter Gene Expression and Shape Development. Available at: http://developingchild.harvard.edu/index.php/resources/multimedia/interactive_features/gene-expression
- Felitti, VJ, Anda, RF, Nordenberg, D, Williamson, DF, Spitz, AM, Edwards, V, Koss, P., and Marks, JS, (1998). Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, Vol. 14 (4), pp 245–258.
- Georgia State University School of Public Health, (2015). SafeCare: Stronger Families, Brighter Futures. March 16, 2015. Available at: <http://safecare.publichealth.gsu.edu/files/2015/04/Overview-of-SafeCare-brochure-3-16-15.pdf>
- Karoly, LA, Kilburn, MR, and Cannon, JS, (2005). *Early Childhood Interventions – Proven Results, Future Promise*. RAND Labor and Population, Santa Monica CA.
- Lee, S, Aos, S, Drake, E, Pennucci, A, Miller, M, and Anderson, L, (2012). *Return on Investment: Evidence-Based Options to Improve Statewide Outcomes April 2012 Update*. Washington State Institute for Public Policy (WSIPP). Available at: <http://www.wsipp.wa.gov/Reports/12-04-1201>
- London Economics, (2007). *Cost-Benefit Analysis of Interventions with Parents*. Department for Children, Schools, and Families, Research Report No. DCSF-RW008. Available at: <http://webarchive.nationalarchives.gov.uk/20130401151715/http://www.education.gov.uk/publications/eOrderingDownload/DCSF-RW008.pdf>

- Miller, TR, (2009). *Estimated Medicaid Costs and Offsetting Federal Cost-Savings of Nurse-Family Partnership*. Pacific Institute for Research and Evaluation (PIRE), May 6, 2009. Available at: http://www.nursefamilypartnership.org/assets/PDF/Journals-and-Reports/PIRE_May_2009
- Miller, TR, (2012). *Societal Return on Investment in Nurse-Family Partnership Services in California*. Pacific Institute for Research and Evaluation (PIRE). Available at: <http://www.nursefamilypartnership.org/assets/PDF/Communities/CA-Documents/Outcomes-California.aspx>
- Miller, TR, (2013). *Life Status and Family Outcomes of Nurse-Family Partnership Services in California*. Pacific Institute for Research and Evaluation (PIRE). Available at: <http://www.nursefamilypartnership.org/assets/PDF/Communities/CA-Documents/ROI-California>
- Miller, TR, (2013). *Nurse-Family Partnership Home Visitation: Costs, Outcomes, and Return on Investment*. PIRE/PEW Center on the States, April 30, 2013.
- Miller, TR, (2015). Projected Outcomes of Nurse-Family Partnership Home Visitation during 1996-2013, USA. *Prevention Science*, 16 (6), pp 765-777.
- Nurse-Family Partnership and Goodwill Guides, (2013). New Report Computes NFP Benefit-Cost Ratio at \$9.50 Per Dollar Invested, *Enterprising NETWORKS*, April 2013. Available at: <http://www.nursefamilypartnership.org/assets/PDF/Communities/Indiana-Documents/EnterprisingNetworksAPR13.aspx>
- Nurse-Family Partnership and Goodwill Guides, (2014). *Nurse-Family Partnership. Outcomes, Costs, and Return on Investment in New York*. Available at: http://www.albany.edu/sph/cphce/mch_toolkit/nfp_benefit_cost.pdf
- Nurse-Family Partnership National Service Office, (2015). *Nurse-Family Partnership's National Results of the Maternal, Infant, and Early Childhood Home Visiting Program*, October 2015. Available at: [http://www.nursefamilypartnership.org/getattachment/public-policy/Journals-and-reports-\(1\)/2015NFP_Report_forprint.pdf.aspx](http://www.nursefamilypartnership.org/getattachment/public-policy/Journals-and-reports-(1)/2015NFP_Report_forprint.pdf.aspx)
- Sweet, MA, and Applebaum, MI, (2004). Is Home Visiting an Effective Strategy? A Meta-Analytic Review of Home Visiting Programs for Families with Young Children. *Child Development*, Vol. 75 (5), pp 1435-1456.
- Washington State Institute for Public Policy, (2012). *SafeCare*. April 2012. Available at: <http://www.wsipp.wa.gov/ReportFile/1494>

Washington State Institute for Public Policy, (2015). *Benefit-Cost Results*. July 11, 2015. Available at:
http://www.wsipp.wa.gov/BenefitCost/WsippBenefitCost_AllPrograms

Washington State Institute for Public Policy, (2015). *Benefit-Cost Technical Documentation*. July 2015.
Available at:
<http://www.wsipp.wa.gov/TechnicalDocumentation/WsippBenefitCostTechnicalDocumentation.pdf>

Zavari, H, Burwick, A, and Maher, E, (2014). *Home Visiting: The Potential for Cost Savings from Home Visiting due to Reductions in Child Maltreatment*. Mathematica Policy Research/Casey Family Programs, March 2014. Available at: <http://www.casey.org/media/evidence-based-home-visiting.pdf>

The L. William Seidman Research Institute serves as a link between the local, national, and international business communities and the W. P. Carey School of Business at Arizona State University (ASU).

First established in 1985 to serve as a center for applied business research alongside a consultancy resource for the Arizona business community, Seidman collects, analyzes and disseminates information about local economies, benchmarks industry practices, and identifies emerging business research issues that affect productivity and competitiveness.

Using tools that support sophisticated statistical modeling and planning, supplemented by an extensive understanding of the local, state and national economies, Seidman today offers a host of economic research and consulting services, including economic impact analyses, economic forecasting, general survey research, attitudinal and qualitative studies, and strategic analyses of economic development opportunities.

Working on behalf of government agencies, regulatory bodies, public or privately-owned firms, academic institutions, and non-profit organizations, Seidman specializes in studies at the city, county or state-wide level. Recent and current clients include:

- Arizona Commerce Authority (ACA)
- Arizona Community Foundation
- Arizona Corporation Commission (ACC)
- Arizona Dept. Mines and Mineral Resources
- Arizona Hospital and Healthcare Association
- Arizona Investment Council (AIC)
- Arizona Mining Council
- Arizona Public Service Corporation (APS)
- Arizona School Boards Association
- Arizona Super Bowl XLIX Host Committee
- Arizona Town Hall
- Banner Health
- BHP Billiton
- The Boeing Company
- The Boys & Girls Clubs of Metro Phoenix
- The Cactus Bowl
- The Central Arizona Project (CAP)
- Chicanos Por La Causa
- The City of Phoenix Fire Department
- Curis Resources (Arizona)
- The David and Gladys Wright Foundation
- De Menna & Associates
- Dignity Health
- Environmental Defense Fund
- Epic Rides/The City of Prescott
- Excelsior Mining
- Executive Budget Office State of Arizona
- The Fiesta Bowl
- First Things First
- Freeport McMoRan
- Glendale Community College
- Goodwill Industries
- Greater Phoenix Economic Council
- HonorHealth
- Intel Corporation
- iState Inc.
- The McCain Institute
- Maricopa Community Colleges
- Maricopa Integrated Health System
- Navajo Nation Div. Economic Development
- The Pakis Foundation
- Phoenix Convention Center
- The Phoenix Philanthropy Group
- Phoenix Sky Harbor International Airport
- Protect the Flows
- Public Service New Mexico (PNM)
- Raytheon
- Republic Services Inc.
- Rio Tinto
- Rosemont Copper Mine
- Salt River Project (SRP)
- Science Foundation Arizona (SFAZ)
- Tenet Healthcare
- The Tillman Foundation
- Turf Paradise
- Valley METRO Light Rail
- Tenet Healthcare
- Twisted Adventures Inc.
- Vote Solar Initiative
- Waste Management Inc.
- Yavapai County Jail District

Morrison Institute for Public Policy is a statewide leader in examining critical issues for Arizona and the region, and is a catalyst for public dialogue. An Arizona State University resource, Morrison Institute uses nonpartisan research, analysis and public outreach to help improve the state's quality of life.

Morrison Institute was established in 1982 through a grant from Marvin and June Morrison of Gilbert, Arizona, in response to the state's growing need for objective research on public policy issues. Through its history, Morrison Institute has conducted important work on topics that span education reform, water resources, health care, human services, urban growth, government structure, arts and culture, technology, quality of life, public finance, environment, sustainability, and economic development.

Morrison Institute also manages Arizona Indicators, an online collection site for data and analysis of key topics ranging from transportation to demographics to innovation. In October 2012, Morrison Institute launched its Latino Public Policy Center to help clarify why and how Latino policy issues, challenges and opportunities affect Arizona's future.

The Morrison Institute Advisory Board is a non-partisan group of leading Arizona business people, scholars, public officials, and public policy experts. Financial support for Morrison Institute is provided by private and public funds, contract research and donations.

Mission & Focus

Morrison Institute specifically:

- *Analyzes and evaluates social patterns and policy impact.*
- *Develops strategies and programs to move Arizona's status along a practical path toward a beneficial future for all.*
- *Develops a clearinghouse of research reports and available data concerning Arizona.*
- *Educates, trains and provides technical assistance to all stakeholders in Arizona's policy realm.*

Currently, Morrison Institute is engaged in several local and state research projects aimed at researching potential policy and its impacts.



**seidman
research** institute

660 S MILL AVENUE, SUITE 300

TEMPE AZ 85281-4011

Tel: (480) 965 5362

Fax: (480) 965 5458

www.seidmaninstitute.com



411 N CENTRAL AVENUE, SUITE 900

PHOENIX, AZ 85004-0692

Tel: (602) 496 0900

Fax: (602) 496 0964

morrisoninstitute.asu.edu



150 N 18th AVE, SUITE 320

Phoenix AZ 85003

www.Strongfamiliesaz.com