

RESOURCE | September 2020

Planning for a Pay for Outcomes Approach in Home Visiting

A Review of Research to Inform Maternal, Infant, and Early Childhood Home Visiting Outcome Selection, Projected Savings, and Pricing

Module 4: Administrative and Government Cost Data Sources

OPRE Report 2020-90

Planning for a Pay for Outcomes Approach in Home Visiting

A Review of Research to Inform Maternal, Infant, and Early Childhood Home Visiting PFO Outcome Selection, Projected Savings, and Pricing

Module 4: Administrative and Government Cost Data Sources

OPRE Report 2020-90

Authors

Kimberly McCombs-Thornton, Chi Connie Park, Susan Higman, Ashley Kelley, and Patrice Cachat, James Bell Associates

Submitted to

Pooja Gupta Curtin and Nicole Denmark, Project Officers
Office of Planning, Research, and Evaluation
Administration for Children and Families
U.S. Department of Health and Human Services
Contract Number: HHSP233201500133I

Prepared by

James Bell Associates
3033 Wilson Boulevard, Suite 650
Arlington, VA 22201
(703) 528-3230
www.jbassoc.com

Susan Zaid
Project Director

This report is in the public domain. Permission to reproduce is not necessary. Suggested citation: McCombs-Thornton, K., Park, C., Higman, S., Kelley, A., & Cachat, P. (2020). Planning for a pay for outcomes approach in home visiting: A review of research to inform Maternal, Infant, and Early Childhood Home Visiting outcome selection, projected savings, and pricing (OPRE Report No. 2020-90). Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Disclaimer

The views expressed in this publication do not necessarily reflect the views or policies of the Office of Planning, Research, and Evaluation, the Administration for Children and Families, or the U.S. Department of Health and Human Services. This report and other reports sponsored by the Office of Planning, Research, and Evaluation are available at www.acf.hhs.gov/opre.



Contents

Introduction 1

 Module 4 Overview 2

 How to Use Module 4 2

Administrative and Government Cost Data Sources 3

References 11

Exhibits

Exhibit 1. Administrative and Government Cost Data Sources for Child Development and School Readiness Outcomes 4

Exhibit 2. Administrative and Government Cost Data Sources for Child Health Outcomes 5

Exhibit 3. Administrative and Government Cost Data Sources for Family Economic Self-Sufficiency Outcomes 6

Exhibit 4. Administrative and Government Cost Data Sources for Maternal Health Outcomes 7

Exhibit 5. Administrative and Government Cost Data Sources for Reductions in Child Maltreatment Outcomes 8

Exhibit 6. Administrative and Government Cost Data Sources for Reductions in Juvenile Delinquency, Crime, and Family Violence Outcomes 10

Introduction

Pay for outcomes (PFO) is a payment model that promotes innovative financing for social initiatives, connecting funding to outcomes and cost savings. The Bipartisan Budget Act of 2018 (Public Law 115–123, Section 50605) allows Maternal Infant and Early Childhood Home Visiting Program awardees to pursue PFO arrangements. PFO can help awardees expand services, improve outcomes, reach new or underserved populations, and/or engage new stakeholders. This resource provides information to inform PFO feasibility studies and PFO project development, including outcome selection, projected savings, and outcome payment pricing for financial agreements. **Module 4 summarizes the administrative and government data sources used in return on investment (ROI) calculations cited in previous modules.**

Purpose of this resource

One of the first steps in a PFO feasibility study (see Introduction) is to identify outcomes to be monetized. This resource provides information about existing studies and reports to inform decisions about outcomes, but it does not walk through how to conduct a PFO project.

- *Introduction* provides background information on PFO and feasibility studies.
- *Module 1: Overview of Outcomes Demonstrated in Home Visiting Studies* presents an in-depth scan of home visiting outcomes achieved by model.
- *Module 2: Economic Value of Home Visiting Outcomes* details monetary values researchers have used to establish savings in home visiting return on investment analyses.
- *Module 3: Economic Value of Outcomes in Non-Home Visiting Research* summarizes monetary values researchers have used for similar outcomes beyond home visiting studies.
- *Module 4: Administrative and Government Cost Data Sources* collates the administrative data sources used in the return on investment calculations.

Module 4 Overview

A key step in determining the feasibility of a PFO approach and structuring a PFO initiative is estimating cost savings associated with achieving targeted outcomes through home visiting. Administrative data is one source to inform these estimates.

Module 4 provides an overview of the types of data sources awardees may use to monetize outcomes. It then summarizes administrative and government data sources that ROI studies from Modules 2 and 3 used to determine per unit costs of outcomes.

Information is organized by the outcome domains used in the Home Visiting Evidence of Effectiveness (HomVEE) review, which assesses the quality of the research evidence for early childhood home visiting models (Sama-Miller et al., 2019). ROI studies have used administrative or government data to monetize outcomes in six of the eight domains.

How to Use Module 4

Once an awardee identifies potential outcome measures for a PFO initiative, the next step is to estimate the monetary value of improved outcomes. These estimates inform both the PFO feasibility study and the structuring of the PFO initiative. Awardees may estimate potential value based on anticipated cost savings or cost avoidance and social benefit.

One approach is to apply the per unit costs to the outcomes they have achieved in the past to estimate future savings. Awardees should use local cost data when possible to ensure a value more reflective of their community.

Awardees can use Module 4 to identify sources for local cost data. Module 4 provides administrative and government data sources researchers have used to monetize home visiting outcomes. Awardees can use these sources to help find similar data sources for their own location via an Internet search.

HomVEE Outcome Domains

Child development and school readiness

Child health

Family self-sufficiency

Linkages and referrals

Maternal health

Positive parenting practices

Reduction in child maltreatment

Reduction in juvenile delinquency, family violence, and crime

Bolded domains have ROI studies included in this module

Administrative and Government Cost Data Sources

Awardees can use data from a variety of sources to inform the monetary value of home visiting outcomes. Researchers have drawn per unit costs from published research, technical reports, national surveys, program participant interviews, and so on. Administrative and government data sources offer the advantage of already being collected, available, and specific to the awardee's location.

Administrative records include client and program-level data collected by local implementing agencies and partner organizations. Patient billing records, for instance, provide data to determine the actual average cost for emergency department usage in a particular health system. Awardees could also use Medicaid data to calculate the health care cost of preterm births to low-income mothers for a geographic area.

Government reports, surveys, or websites may also provide cost data for a region, state, or other locality. State departments of human or social services, for example, often publish their daily reimbursement rates for foster care out-of-home placement. States also post the monthly value of public assistance packages such as Temporary Assistance to Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP) or food stamps, Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and childcare subsidies. Data from state or federally sponsored surveys are also available online.

Exhibits 1–6 summarize the administrative data sources researchers have used to calculate per unit costs for home visiting outcomes, as cited in Modules 2 and 3. Government sources that allow users to view results at the regional, state, or local level appear as well. Outcomes are listed as defined by each study.

Exhibit 1. Administrative and Government Cost Data Sources for Child Development and School Readiness Outcomes

Used in ROI studies

Study	Study-Defined Monetized Outcome	Administrative or Government Cost Data Source
Child Development		
French et al., 2018	Clinician (counselors and psychologists) annual salary	U.S. Department of Labor, Bureau of Labor Statistics, State Occupational Employment and Wage Estimates
French et al., 2018	Behavioral and mental health specialist salary	U.S. Department of Labor, Bureau of Labor Statistics, State Occupational Employment and Wage Estimates
Honeycutt et al., 2015	Therapist salary	Bureau of Labor Statistics, 2010
Lynch et al., 2017	Health services for medical provider, and emergency room and mental health provider	Oregon Health Plan
Lynch et al., 2017	Other services (e.g., vocational assistance, case management, family therapist)	Bureau of Labor Statistics Oregon Health Plan Mental Health Fee Schedule Oregon Health Plan Medical-Dental Fee Schedule
Washington State Institute for Public Policy (WSIPP), 2019	Health care associated with disruptive behavior disorder	Medical Expenditure Panel Survey
Child Education		
Glazner et al., 2004	Education	State administrative data
WSIPP, 2019	K-12 grade repetition	Washington State Office of the Superintendent of Public Instruction
WSIPP, 2019	K-12 special education	Washington State Office of the Superintendent of Public Instruction
WSIPP, 2019	Costs of higher education	Integrated Postsecondary Education Data System

Note: Outcomes are listed as defined by each study.

Exhibit 2. Administrative and Government Cost Data Sources for Child Health Outcomes

Used in ROI studies

Study	Study-Defined Monetized Outcome	Administrative or Government Cost Data Source
Avruch & Cackley, 1995	Hospitalization	Maryland Hospital Cost Review Commission
Ball & Wright, 1999	Antibiotic use for otitis media	Thomas-Davis Medical Centers
Ball & Wright, 1999	Pediatric/office visits	Thomas-Davis Medical Centers and Regional Health Plan Database
Ball & Wright, 1999	Hospitalization	Thomas-Davis Medical Centers and Regional Health Plan Database
Glazner et al., 2004	Medicaid/health care	State Medicaid data
Green et al., 2016	Medical claims	Oregon Health Authority's Division of Medical Assistance Programs
Peters et al., 2015	Preterm birth rate	Healthcare Cost and Utilization Project State Inpatient Databases, Michigan Health & Hospital Association
Pugh et al., 2002	Estimated mother's income (cost of time to feed infant)	National Compensation Survey
Stankaitis et al., 2005	Neonatal intensive care unit admission rate	Monroe Plan for Medical Care administrative records
Stankaitis et al., 2005	Birth administrative costs	Monroe Plan for Medical Care administrative records
WSIPP, 2019	Health care associated with low birth weight births	Washington State Hospital data
WSIPP, 2019	Health care associated with very low birth weight births	Washington State Hospital data

Note: Outcomes are listed as defined by each study.

Exhibit 3. Administrative and Government Cost Data Sources for Family Economic Self-Sufficiency Outcomes

Used in ROI studies

Study	Study-Defined Monetized Outcome	Administrative or Government Cost Data Source
Earnings		
French et al., 2018	Wages	U.S. Department of Labor, Bureau of Labor Statistics, State Occupational Employment and Wage Estimates U.S. General Services Administration, Privately Owned Vehicle Mileage Reimbursement Rates
Green et al., 2016	Employment Assistance	Oregon Department of Human Services, <i>Annual Report to the Oregon Legislative Assembly and Department of Human Services JOBS Plus Program</i>
WSIPP, 2019	Earnings	U.S. Census Bureau's March Supplement to the Current Population Survey and U.S. Implicit Price Deflator for Personal Consumption Expenditures from the U.S. Department of Commerce
Public Assistance		
Bhandari & Nepal, 2014	WIC food packages	New Mexico WIC office Bureau of Business & Economic Research
DuMont et al., 2010	Food Stamps	New York State Office of Temporary and Disability Assistance
DuMont et al., 2010	Public assistance	New York State Office of Temporary and Disability Assistance
Glazner et al., 2004	Public assistance	State administrative data
Green et al., 2016	Childcare subsidies	Oregon Department of Human Services, Licensed Rate Maximum
Green et al., 2016	SNAP/Food Stamps	Oregon Department of Human Services, SNAP Allotments
Green et al., 2016	TANF	Oregon Department of Human Services, <i>Annual Report to the Oregon Legislative Assembly and Department of Human Services JOBS Plus Program</i>
Green et al., 2016	Publicly funded health insurance	Oregon Health Plan website
WSIPP, 2019	Public assistance	Washington State Department of Social and Health Services, Economic Services Administration
WSIPP, 2019	Food assistance	Washington State Department of Social and Health Services, Economic Services Administration

Note: Outcomes are listed as defined by each study.

Exhibit 4. Administrative and Government Cost Data Sources for Maternal Health Outcomes

Used in ROI studies

Study	Study-Defined Monetized Outcome	Administrative or Government Cost Data Source
WSIPP, 2019	Health care associated with major depression	Medical Expenditure Panel Survey
Wilkinson et al., 2017	Screening for postpartum depression	North Carolina Department of Health and Human Services, NC Medicaid Division of Health Benefits, Fee schedule

Note: Outcomes are listed as defined by each study.

Exhibit 5. Administrative and Government Cost Data Sources for Reductions in Child Maltreatment Outcomes

Used in ROI studies

Study	Study-Defined Monetized Outcome	Administrative or Government Cost Data Source
Child Maltreatment		
DuMont et al., 2010	Foster care	New York State age-adjusted foster care per diem rates
DuMont et al., 2010	Child welfare prevention and support services	New York State Child Care Review Services administrative database
DuMont et al., 2010	Child Protective Service investigations	New York State Statewide Automated Child Welfare Information System, CONNECTIONS
Glazner et al., 2004	Child abuse and neglect	State administrative data
Green et al., 2016	Substantiated child abuse report	Oregon Department of Human Services, Staffing Survey
Green et al., 2016	Foster care	Oregon Department of Human Services, Children and Families Foster Care Program website
Noor & Caldwell, 2005	Hospitalization as a result of child abuse	Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project
WSIPP, 2019	Cost per investigation	Washington State Department of Social and Health Services, Children's Administration data
WSIPP, 2019	Court involvement	Washington Administrative Office of the Courts dockets
WSIPP, 2019	In-home services	Washington State Department of Social and Health Services, Executive Management Information System
WSIPP, 2019	New foster care placement	Washington State Department of Social and Health Services, Children's Administration data
WSIPP, 2019	Adoption	Washington State Department of Social and Health Services adoption data and Interstate Compact on the Placement of Children
WSIPP, 2019	Out-of-home placement	Washington State Department of Social and Health Services, Executive Management Information System
Injury		
Green et al., 2016	Emergency room visit	Oregon Health Authority's Division of Medical Assistance Programs

Karoly, 2017	Emergency room visit	Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey
WSIPP, 2019	Emergency room visit, general user	Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey
WSIPP, 2019	Emergency room visit, frequent user	Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey

Note: Outcomes are listed as defined by each study.

Exhibit 6. Administrative and Government Cost Data Sources for Reductions in Juvenile Delinquency, Crime, and Family Violence Outcomes

Used in ROI studies

Study	Study-Defined Monetized Outcome	Administrative or Government Cost Data Source
Crime		
WSIPP, 2019	Police costs	Washington State Auditor
WSIPP, 2019	Juvenile local detention	Washington State Auditor and Washington State Governor's Juvenile Justice Advisory Committee
WSIPP, 2019	Juvenile local supervision	Washington State Auditor and Administrative Office of the Courts
WSIPP, 2019	Juvenile state institution	Washington Legislative Evaluation and Accountability Program and Washington State Caseload Forecast Council
WSIPP, 2019	Juvenile state parole	Juvenile Rehabilitation Administration's Executive Management Information System
WSIPP, 2019	Adult jail	Washington State Auditor
WSIPP, 2019	Adult local supervision	Washington Legislative Evaluation and Accountability Program
WSIPP, 2019	Adult state prison	Washington Department of Corrections
WSIPP, 2019	Adult post-prison supervision	Washington Legislative Evaluation and Accountability Program
WSIPP, 2019	Court costs	Washington State Auditor and Administrative Office of the Courts
Youth Substance Abuse		
Green et al., 2016	Substance abuse treatment	Oregon Health Plan's Fee Schedule for Fee-for-Service Providers

Note: Outcomes are listed as defined by each study.

References

- Avruch, S., & Cackley, A. P. (1995). Savings achieved by giving WIC benefits to women prenatally. *Public Health Reports, 110*, 27–34.
- Ball, T. M., & Wright, A. L. (1999). Health care cost of formula-feeding in the first year of life. *Pediatrics, 103*, 870–876.
- Bhandari, D., & Nepal, N. (2014). *The cost-benefit analysis of increasing breastfeeding rates in New Mexico* [Unpublished manuscript]. Bureau of Business and Economic Research, University of New Mexico.
- Dumont, K., Kirkland, K., Mitchell-Herzfeld, S., Ehrhard-Dietzel, S., Rodriguez, M. L., Lee, E., Layne, C., & Greene, R. (2010). *A randomized trial of Healthy Families New York (HFNY): Does home visiting prevent child maltreatment?* New York State Office of Children & Family Services and The University of Albany, State University of New York.
- French, A. N., Yates, B. T., & Fowles, T. R. (2018). Cost-effectiveness of Parent–Child Interaction Therapy in clinics versus homes: Client, provider, administrator, and overall perspectives. *Journal of Child and Family Studies, 27*, 3329–3344. <https://doi.org/10.1007/s10826-018-1159-4>
- Glazner, J., Bondy, J., Luckey, D., & Olds, D. (2004). *Effect of the Nurse Family Partnership on government expenditures for vulnerable first-time mothers and their children in Elmira, New York, Memphis, Tennessee, and Denver, Colorado*. Final report to the Administration for Children and Families (No. 90XP0017). University of Colorado Health Sciences Center.
- Green, B. L., Tarte, J., Sanders, M. B., & Waller, M. S. (2016). *Testing the effectiveness of Healthy Start-Healthy Families Oregon: Outcomes and cost-benefits*. Portland State University and NPC Research. http://pdxscholar.library.pdx.edu/childfamily_abuse/2
- Honeycutt, A. A., Khavjou, O. A., Jones, D. J., Cuellar, J., & Forehand, R. L. (2015). Helping the noncompliant child: An assessment of program costs and cost-effectiveness. *Journal of Child and Family Studies, 24*, 499–504.
- Karoly, L. A. (2017). *The economic returns from investing in early childhood programs in the Granite State*. RAND Corporation.
- Lynch, F. L., Dickerson, J. F., Pears, K. C., & Fisher, P. A. (2017). Cost effectiveness of a school readiness intervention for foster children. *Children and Youth Services Review, 81*, 63–71.
- Noor, I., & Caldwell, R. A. (2005). *The cost of child abuse vs. child abuse prevention: A multi-year follow-up in Michigan*. Michigan Children’s Trust Fund and Michigan State University. https://www.michigan.gov/documents/ctf/cost2005_528033_7.pdf
- Peters, C., McKane, P., & Meghea, C. (2015). *Cost savings to Medicaid from the Maternal Infant Health Program due to reduction in preterm birth rate* (ROI Fact Sheet Series Volume 1, Issue 1). Michigan Department of Community Health. https://www.michigan.gov/documents/mdch/ROI_fact_sheet_2015.3_final_486914_7.pdf
- Pugh, L. C., Milligan, R. A., Frick, K. D., Spatz, D., & Bronner, Y. (2002). Breastfeeding duration, costs, and benefits of a support program for low-income breastfeeding women. *Birth, 29*(2), 95–100.
- Sama-Miller, E., Akers, L., Mraz-Esposito, A., Zukiewicz, M., Avellar, S., Paulsell, D., & Del Grosso, P. (2017). *Home Visiting Evidence of Effectiveness review: Executive summary*. Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department

of Health and Human Services.

https://www.acf.hhs.gov/sites/default/files/opre/homvee_executive_summary_03162017_508.pdf

Stankaitis, J. A., Brill, H. R., & Walker, D. M. (2005). Reduction in neonatal intensive care unit admission rates in a Medicaid managed care program. *American Journal of Managed Care*, 11(3), 166–172.

Washington State Institute for Public Policy. (2019). *Benefit-cost technical documentation*.

<http://www.wsipp.wa.gov/TechnicalDocumentation/WsippBenefitCostTechnicalDocumentation.pdf>

Wilkinson, A., Anderson, S., & Wheeler, S. B. (2017). Screening for and treating postpartum depression and psychosis: A cost-effectiveness analysis. *Maternal and Child Health Journal*, 21, 903–914.