

The WSIPP benefit-cost analysis examines, on an apples-to-apples basis, the monetary value of programs or policies to determine whether the benefits from the program exceed its costs. WSIPP's research approach to identifying evidence-based programs and policies has three main steps. First, we determine "what works" (and what does not work) to improve outcomes using a statistical technique called meta-analysis. Second, we calculate whether the benefits of a program exceed its costs. Third, we estimate the risk of investing in a program by testing the sensitivity of our results. For more detail on our methods, see our [Technical Documentation](#).

Current estimates replace old estimates. Numbers will change over time as a result of model inputs and monetization methods.

### Career and technical education academies Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated December 2016.

Program Description: Federal education policy related to career and technical education (CTE) in high school increasingly emphasizes preparation for both college and career. CTE academies intend to develop both career and academic skill sets to enable a student to pursue postsecondary education or proceed to the workforce. These academies often operate as a "school-within-a-school" and emphasize connections with the workplace through partnerships with local employers. We considered studies of Career Academies and Linked Learning, an approach to career pathways used in California high schools.

#### Benefit-Cost Summary Statistics Per Participant

##### Benefits to:

|                            |                  |                                 |         |
|----------------------------|------------------|---------------------------------|---------|
| Taxpayers                  | \$4,879          | Benefit to cost ratio           | \$2.68  |
| Participants               | \$13,876         | Benefits minus costs            | \$9,377 |
| Others                     | (\$515)          | Chance the program will produce |         |
| Indirect                   | (\$3,296)        | benefits greater than the costs | 85 %    |
| <b>Total benefits</b>      | <b>\$14,943</b>  |                                 |         |
| <b>Net program cost</b>    | <b>(\$5,566)</b> |                                 |         |
| <b>Benefits minus cost</b> | <b>\$9,377</b>   |                                 |         |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

## Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>             | Benefits to:    |                |                     |                       |                 |
|--|-----------------|----------------|---------------------|-----------------------|-----------------|
|  | Participants    | Taxpayers      | Others <sup>2</sup> | Indirect <sup>3</sup> | Total           |
| Crime  | \$0             | \$17           | \$40                | \$8                   | \$65            |
| Labor market earnings associated with employment   | \$13,045        | \$5,924        | \$0                 | \$0                   | \$18,969        |
| Public assistance                                  | \$399           | (\$938)        | \$0                 | (\$466)               | (\$1,006)       |
| Health care associated with educational attainment | (\$139)         | \$508          | (\$555)             | \$254                 | \$68            |
| Food assistance                                    | \$571           | (\$632)        | \$0                 | (\$314)               | (\$375)         |
| Adjustment for deadweight cost of program          | \$0             | \$0            | \$0                 | (\$2,778)             | (\$2,778)       |
| <b>Totals</b>                                      | <b>\$13,876</b> | <b>\$4,879</b> | <b>(\$515)</b>      | <b>(\$3,296)</b>      | <b>\$14,943</b> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

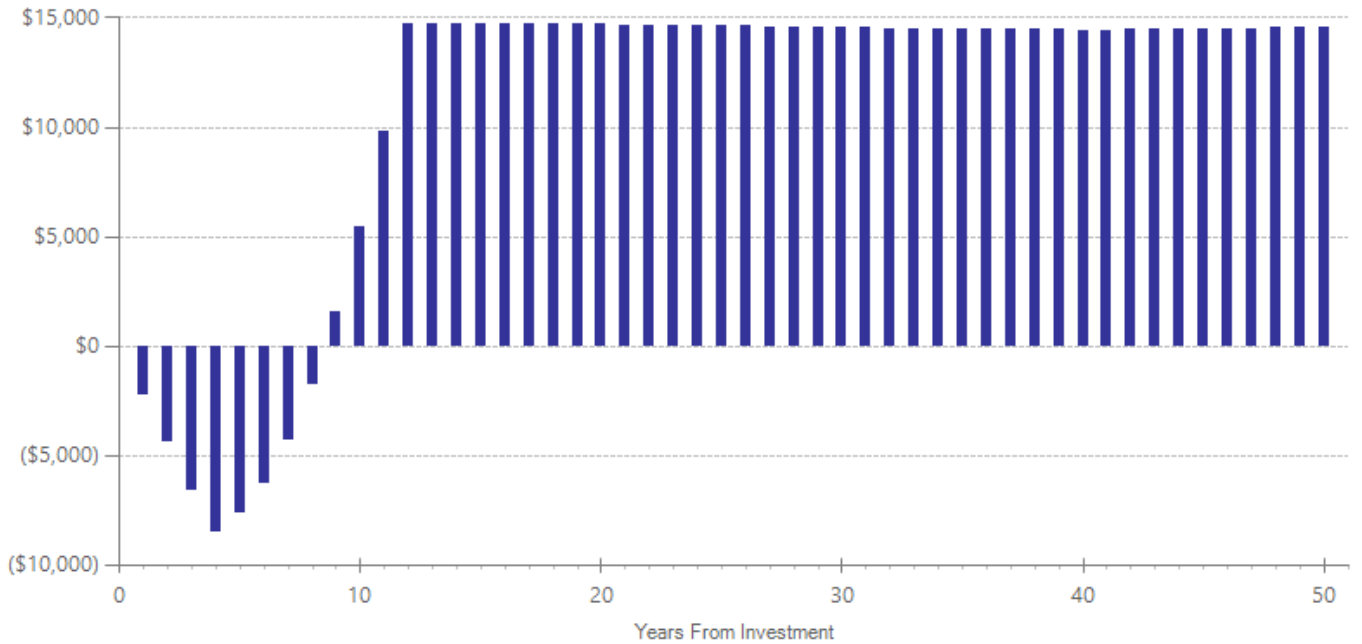
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |           |
|------------------|-------------|--------------|--|-----------|
| Program costs    | \$1,441     | 2014         | Present value of net program costs (in 2016 dollars) | (\$5,566) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 50 %      |

We estimated the additional cost to operate a career and technical education (CTE) academy, above the cost of a typical high school education. This includes the ongoing cost of additional time from paid school personnel (teachers, administrators, and counselors) as well as time from unpaid work-based learning partners that work with students or participate in academy programs. It also includes the additional cost of materials, supplies, and operating costs that are allocated to CTE programs in Washington. Startup costs for equipment and personnel are also included, annualized over 5 years (or 30 years for facilities).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured           | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-----------------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                             |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     | ES  | p-value |
|                             |                     |             | ES  | SE    | Age | ES                          | SE    | Age |   |         |
| Earnings*                   | 1                   | 770         | 0.106   | 0.041 | 26  | 0.000                       | 0.000 | 27  | 0.106   | 0.010   |
| Food assistance             | 1                   | 799         | 0.081   | 0.070 | 22  | 0.000                       | 0.000 | 24  | 0.081   | 0.250   |
| Graduate with 2-year degree | 1                   | 782         | 0.040   | 0.099 | 26  | 0.040                       | 0.099 | 26  | 0.040   | 0.685   |
| Graduate with 4-year degree | 1                   | 782         | -0.082  | 0.086 | 26  | -0.082                      | 0.086 | 26  | -0.082  | 0.339   |
| High school graduation      | 3                   | 1129        | 0.057   | 0.053 | 18  | 0.057                       | 0.053 | 18  | 0.057   | 0.285   |
| Hours worked <sup>^</sup>   | 1                   | 770         | 0.056   | 0.054 | 26  | 0.000                       | 0.000 | 28  | 0.056   | 0.293   |
| Public assistance           | 1                   | 799         | 0.072   | 0.070 | 22  | 0.000                       | 0.000 | 24  | 0.072   | 0.303   |
| Test scores                 | 3                   | 585         | 0.051   | 0.048 | 17  | 0.051                       | 0.048 | 17  | 0.051   | 0.288   |

<sup>^</sup>WSIPP’s benefit-cost model does not monetize this outcome.

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

- Guha, R., Caspary, K., Stites, R., Padilla, C., Arshan, N., Park, C., Tse, V., Astudillo, S., Black, A., & Adelman, N. (2014). *Taking stock of the California Linked Learning district initiative: Fifth-Year evaluation report*. Menlo Park, CA: SRI International
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## Case management for unemployment insurance claimants Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated November 2015.

Program Description: Case managers work with Unemployment Insurance (UI) claimants in individual or group sessions to provide counseling, job search assistance or job retention services through orientations, assessments, interviews, or telephone calls. Case managers usually provide referrals to child care subsidies, transportation assistance, and other support services. They may also refer clients to education and training, particularly if job searches are unsuccessful. Case management may end when clients find employment, or continue with post-employment support services. UI programs usually provide these services to eligible dislocated workers, lasting anywhere from one week to three months.

### Benefit-Cost Summary Statistics Per Participant

| Benefits to:               |                |                                 |         |
|----------------------------|----------------|---------------------------------|---------|
| Taxpayers                  | \$1,162        | Benefit to cost ratio           | \$19.90 |
| Participants               | \$2,558        | Benefits minus costs            | \$3,446 |
| Others                     | \$0            | Chance the program will produce |         |
| Indirect                   | (\$91)         | benefits greater than the costs | 68 %    |
| <b>Total benefits</b>      | <b>\$3,628</b> |                                 |         |
| <b>Net program cost</b>    | <b>(\$182)</b> |                                 |         |
| <b>Benefits minus cost</b> | <b>\$3,446</b> |                                 |         |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>           | Benefits to:   |                |                     |                       |                |
|--|----------------|----------------|---------------------|-----------------------|----------------|
|  | Participants   | Taxpayers      | Others <sup>2</sup> | Indirect <sup>3</sup> | Total          |
| Labor market earnings associated with employment | \$2,558        | \$1,162        | \$0                 | \$0                   | \$3,719        |
| Adjustment for deadweight cost of program        | \$0            | \$0            | \$0                 | (\$91)                | (\$91)         |
| <b>Totals</b>                                    | <b>\$2,558</b> | <b>\$1,162</b> | <b>\$0</b>          | <b>(\$91)</b>         | <b>\$3,628</b> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>“Others” includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>“Indirect benefits” includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

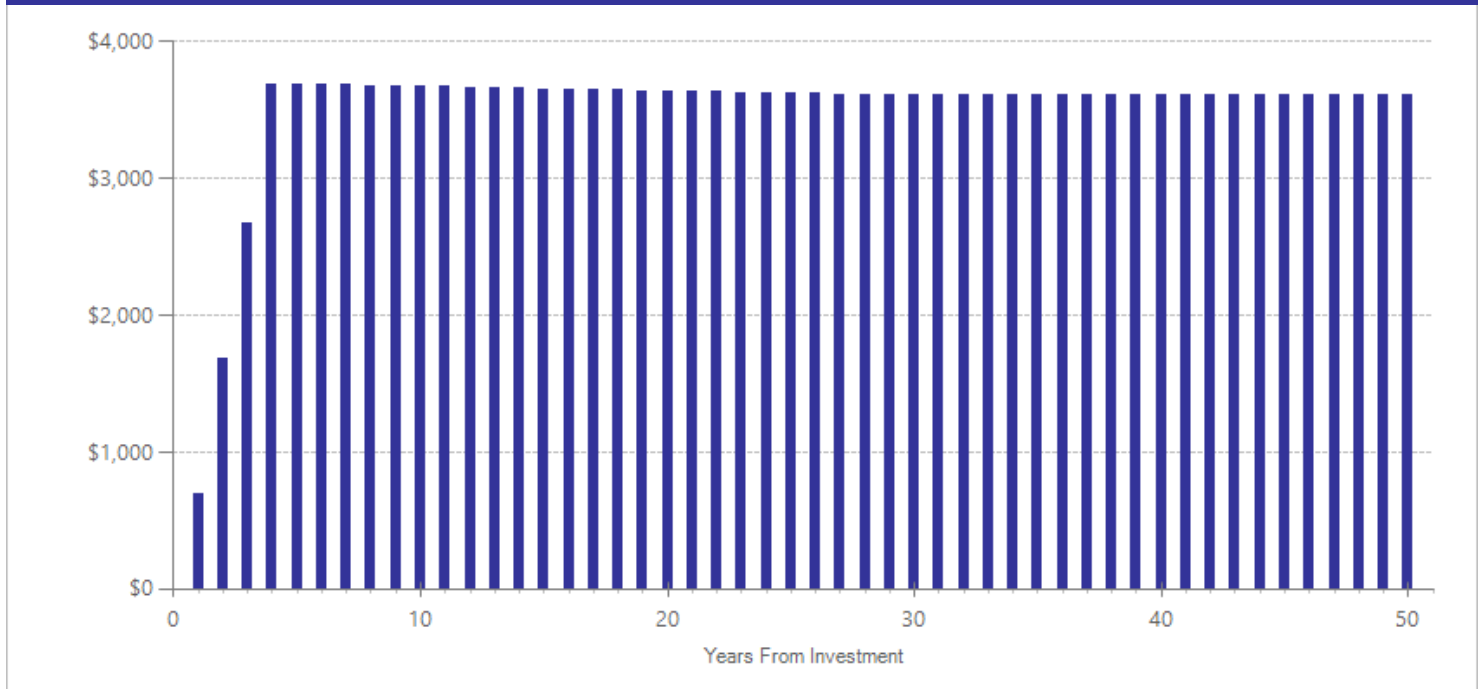
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |         |
|------------------|-------------|--------------|--|---------|
| Program costs    | \$180       | 2014         | Present value of net program costs (in 2016 dollars) | (\$182) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 75 %    |

Case management services typically last between one week and three months. We estimated the average annual cost of treatment per participant using data from studies in our meta-analysis that report cost estimates (Black et al., 2003; Decker et al., 2000; Michaelides et al., 2012). Costs vary by study but may include central administration, staff salaries, staff benefits, recruitment, assessment services, job placement and retention services, short-term training provided by staff, transportation, and medical treatments.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                   |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     | ES  | p-value |
|                   |                     |             | ES  | SE    | Age | ES                          | SE    | Age |   |         |
| Earnings*         | 11                  | 102201      | 0.036   | 0.015 | 42  | 0.000                       | 0.014 | 43  | 0.036   | 0.019   |
| Employment        | 13                  | 209702      | -0.002  | 0.007 | 42  | 0.000                       | 0.014 | 43  | -0.002  | 0.820   |

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Training with work experience for adult welfare recipients

### Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated November 2015.

Program Description: Adult TANF/AFDC recipients may receive job search and placement assistance, adult basic education, ESL and GED preparation, vocational training, or support services such as child care and housing support. All participants in these programs also receive some type of work experience, paid or unpaid. Most studies define the adult population to be age 18 and over. Treatment may be sequential, where participants first undergo training and then receive work experience, or follow individualized employment plans for each participant. These programs sometimes take the form of "welfare-to-work" programs, where participants must participate in employment activities to receive welfare benefits. Community organizations, welfare agencies, and federally or state-funded programs administered by state, county, or local government agencies typically provide these services. Programs last anywhere from two months to one year.

#### Benefit-Cost Summary Statistics Per Participant

| Benefits to:            |                  |                                 |         |
|-------------------------|------------------|---------------------------------|---------|
| Taxpayers               | \$3,805          | Benefit to cost ratio           | \$1.65  |
| Participants            | \$4,579          | Benefits minus costs            | \$2,749 |
| Others                  | \$0              | Chance the program will produce |         |
| Indirect                | (\$1,417)        | benefits greater than the costs | 78 %    |
| <u>Total benefits</u>   | <u>\$6,967</u>   |                                 |         |
| <u>Net program cost</u> | <u>(\$4,218)</u> |                                 |         |
| Benefits minus cost     | \$2,749          |                                 |         |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>           | Benefits to:   |                |                     |                       |                |
|--|----------------|----------------|---------------------|-----------------------|----------------|
|  | Participants   | Taxpayers      | Others <sup>2</sup> | Indirect <sup>3</sup> | Total          |
| Labor market earnings associated with employment | \$5,380        | \$2,443        | \$0                 | \$0                   | \$7,823        |
| Public assistance                                | (\$381)        | \$896          | \$0                 | \$446                 | \$962          |
| Food assistance                                  | (\$420)        | \$465          | \$0                 | \$232                 | \$276          |
| Adjustment for deadweight cost of program        | \$0            | \$0            | \$0                 | (\$2,095)             | (\$2,095)      |
| <b>Totals</b>                                    | <b>\$4,579</b> | <b>\$3,805</b> | <b>\$0</b>          | <b>(\$1,417)</b>      | <b>\$6,967</b> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

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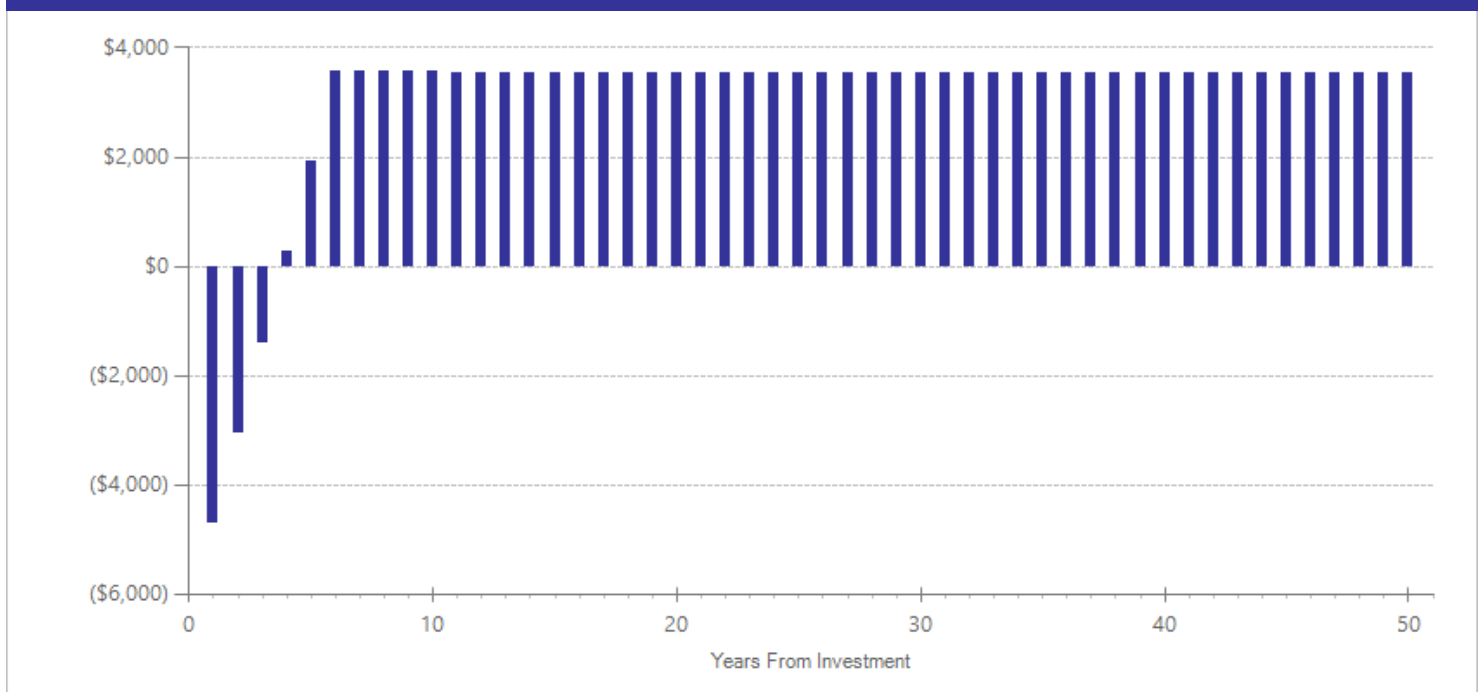
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |           |
|------------------|-------------|--------------|--|-----------|
| Program costs    | \$4,154     | 2014         | Present value of net program costs (in 2016 dollars) | (\$4,218) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 43 %      |

These programs typically last between two months and one year. We estimated the average annual cost of treatment per participant using data from studies in our meta-analysis that report cost estimates (Auspos et al., 1988; Bell & Orr, 1994; Blomquist, 1995; Bloom et al., 2000; Farrell, 2000; Freedman et al., 2000; Freedman et al., 1995; Hamilton et al., 1997; Riccio et al., 1986; Scrivener et al., 2002; Scrivener et al., 2001; Scrivener et al., 1998; Storto et al., 2000). Costs vary by study but may include administrative costs, employment services, case management, eligibility-related services, foregone earnings, tuition payments, allowances, support services such as transportation assistance and child care costs, and wage subsidies.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                   |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     | ES  | p-value |
|                   |                     |             | ES  | SE    | Age | ES                          | SE    | Age |   |         |
| Earnings*         | 36                  | 95653       | 0.146   | 0.026 | 39  | 0.000                       | 0.018 | 40  | 0.149   | 0.001   |
| Employment        | 32                  | 95650       | 0.091   | 0.014 | 39  | 0.000                       | 0.018 | 40  | 0.094   | 0.001   |
| Food assistance   | 19                  | 42878       | -0.055  | 0.010 | 39  | 0.000                       | 0.018 | 40  | -0.058  | 0.001   |
| Public assistance | 38                  | 91383       | -0.064  | 0.015 | 39  | 0.000                       | 0.028 | 40  | -0.065  | 0.001   |

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

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## Citations Used in the Meta-Analysis

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## Job search and placement Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated November 2015.

Program Description: Unemployed individuals conduct a supervised job search, attend job search workshops or participate in job clubs, similar to peer support groups for the unemployed. This intervention is very brief, lasting anywhere from a few hours in one day to two months. State Unemployment Insurance (UI) programs, employment departments, and welfare agencies usually provide these program services. UI claimants and TANF/AFDC recipients are the most common participants.

### Benefit-Cost Summary Statistics Per Participant

| Benefits to:            |                |                                 |         |
|-------------------------|----------------|---------------------------------|---------|
| Taxpayers               | \$1,512        | Benefit to cost ratio           | \$4.58  |
| Participants            | \$618          | Benefits minus costs            | \$1,866 |
| Others                  | \$0            | Chance the program will produce |         |
| Indirect                | \$258          | benefits greater than the costs | 67 %    |
| <u>Total benefits</u>   | <u>\$2,387</u> |                                 |         |
| <u>Net program cost</u> | <u>(\$522)</u> |                                 |         |
| Benefits minus cost     | \$1,866        |                                 |         |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>           | Benefits to: |                |                     |                       |                |
|--|--------------|----------------|---------------------|-----------------------|----------------|
|  | Participants | Taxpayers      | Others <sup>2</sup> | Indirect <sup>3</sup> | Total          |
| Labor market earnings associated with employment | \$1,056      | \$480          | \$0                 | \$0                   | \$1,536        |
| Public assistance                                | (\$439)      | \$1,032        | \$0                 | \$520                 | \$1,114        |
| Adjustment for deadweight cost of program        | \$0          | \$0            | \$0                 | (\$262)               | (\$262)        |
| <b>Totals</b>                                    | <b>\$618</b> | <b>\$1,512</b> | <b>\$0</b>          | <b>\$258</b>          | <b>\$2,387</b> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

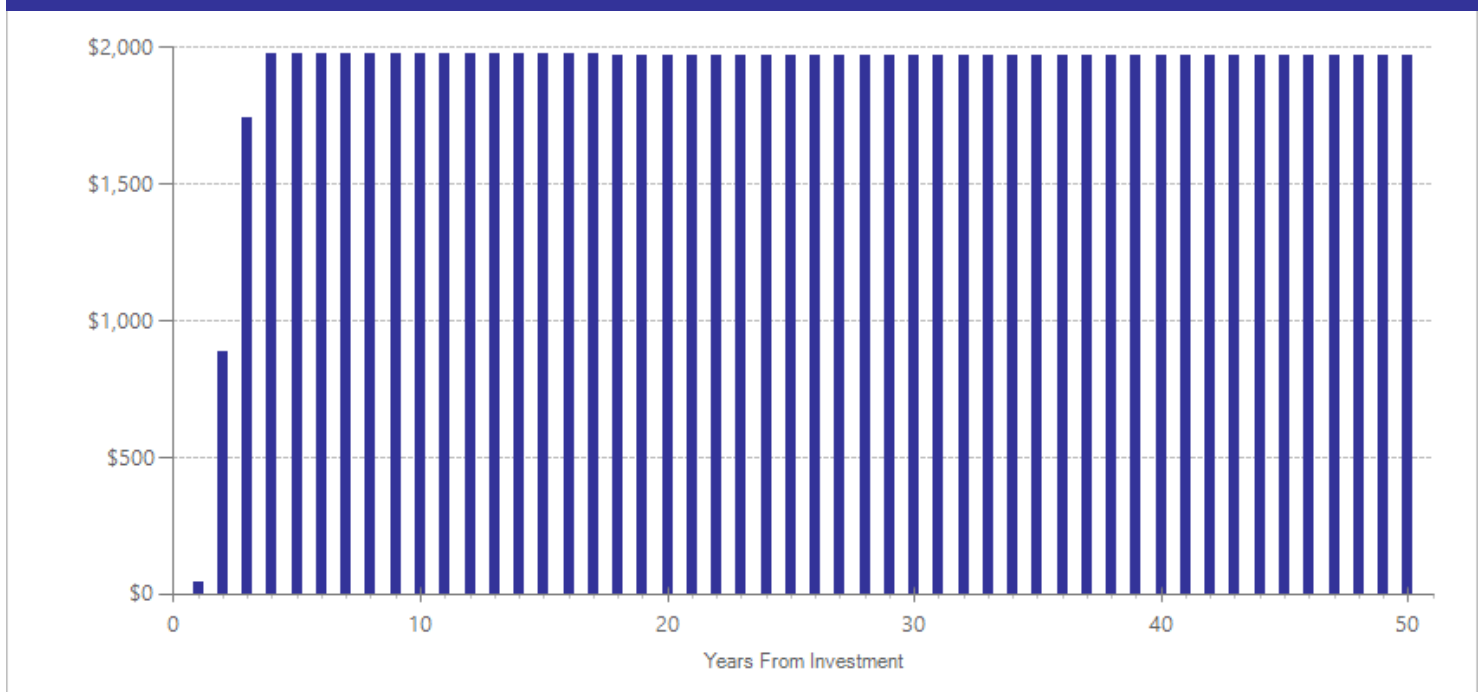
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |         |
|------------------|-------------|--------------|--|---------|
| Program costs    | \$515       | 2014         | Present value of net program costs (in 2016 dollars) | (\$522) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 56 %    |

Job search and placement services are typically provided for a brief period; between one day and two months. We estimated the average annual cost of treatment per participant using data from studies in our meta-analysis that report cost estimates (Corson et al., 1985; Corson & Haimson, 1996; Friedlander et al., 1987; Goldman et al., 1986; Goldman et al., 1981; Vinokur et al., 1991; Wolfhagen & Goldman, 1983). Costs vary by study but may include administrative costs, operating costs, transportation payments, lunches, child care and work-related expenses, staff salaries, and sometimes small stipends for clients.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                   |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     | ES  | p-value |
|                   |                     |             | ES  | SE    | Age | ES                          | SE    | Age |   |         |
| Earnings*         | 8                   | 13539       | 0.038   | 0.024 | 38  | 0.000                       | 0.017 | 40  | 0.038   | 0.103   |
| Employment        | 9                   | 14174       | 0.081   | 0.037 | 38  | 0.000                       | 0.017 | 40  | 0.081   | 0.030   |
| Public assistance | 5                   | 6841        | -0.070  | 0.017 | 38  | 0.000                       | 0.017 | 40  | -0.070  | 0.001   |

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

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## Work experience Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated November 2015.

Program Description: Unemployed clients receive work experience, ranging from unpaid community service jobs to paid (partially or fully subsidized) jobs in the private, public, or nonprofit sector. Clients often participate in work experience after failing to find employment through job search and placement assistance. These programs sometimes take the form of “welfare-to-work” programs, where participants must participate in job searches or work experience to receive welfare benefits. For paid employment, employers may or may not be required to retain employees after wage subsidies end. Welfare agencies and community organizations typically provide these program services to TANF/AFDC recipients, offenders, or low-income\* individuals, lasting anywhere from one month to one year.

\*The low-income population may be defined in a variety of ways, including all workers in the 25th percentile of hourly wages, individuals at or below 130% of the federal poverty line, individuals at or below 200% of the federal poverty line, or an income that meets eligibility requirements for welfare or food stamps.

### Benefit-Cost Summary Statistics Per Participant

| Benefits to:               |                  |                                 |         |
|----------------------------|------------------|---------------------------------|---------|
| Taxpayers                  | \$2,574          | Benefit to cost ratio           | \$1.84  |
| Participants               | \$1,559          | Benefits minus costs            | \$1,757 |
| Others                     | \$0              | Chance the program will produce |         |
| Indirect                   | (\$295)          | benefits greater than the costs | 80 %    |
| <b>Total benefits</b>      | <b>\$3,838</b>   |                                 |         |
| <b>Net program cost</b>    | <b>(\$2,081)</b> |                                 |         |
| <b>Benefits minus cost</b> | <b>\$1,757</b>   |                                 |         |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>           | Benefits to:   |                |                     |                       |                |
|--|----------------|----------------|---------------------|-----------------------|----------------|
|  | Participants   | Taxpayers      | Others <sup>2</sup> | Indirect <sup>3</sup> | Total          |
| Labor market earnings associated with employment | \$2,386        | \$1,084        | \$0                 | \$0                   | \$3,470        |
| Public assistance                                | (\$461)        | \$1,084        | \$0                 | \$544                 | \$1,168        |
| Food assistance                                  | (\$366)        | \$405          | \$0                 | \$205                 | \$244          |
| Adjustment for deadweight cost of program        | \$0            | \$0            | \$0                 | (\$1,044)             | (\$1,044)      |
| <b>Totals</b>                                    | <b>\$1,559</b> | <b>\$2,574</b> | <b>\$0</b>          | <b>(\$295)</b>        | <b>\$3,838</b> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>“Others” includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>“Indirect benefits” includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

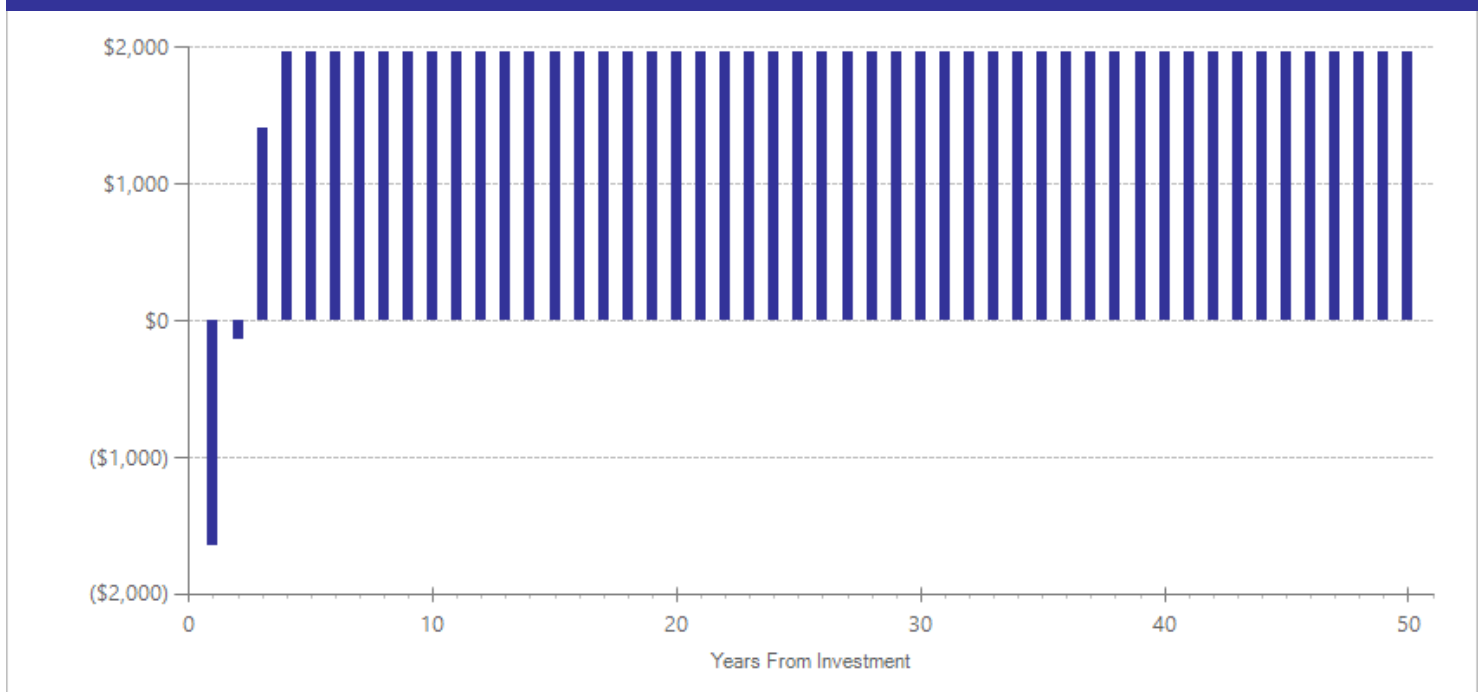
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |           |
|------------------|-------------|--------------|--|-----------|
| Program costs    | \$2,052     | 2014         | Present value of net program costs (in 2016 dollars) | (\$2,081) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 62 %      |

These programs typically last anywhere from one month to one year. We estimated the average annual cost of treatment per participant using data from studies in our meta-analysis that report cost estimates (Duncan et al., 2008; Freedman et al., 1988; Friedlander et al., 1987; Friedlander et al., 1986; Friedlander et al., 1985; Goldman et al., 1986; Hamilton & Friedlander, 1989; Redcross et al., 2012). Costs vary by study but may include costs of program registration, orientation, administration, operations, case management, wage subsidies, earnings supplements, health care, transportation, and child care subsidies.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                   |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     | ES  | p-value |
|                   |                     |             | ES  | SE    | Age | ES                          | SE    | Age |   |         |
| Earnings*         | 15                  | 15792       | 0.091   | 0.026 | 35  | 0.000                       | 0.001 | 37  | 0.091   | 0.001   |
| Employment        | 14                  | 14699       | 0.092   | 0.025 | 35  | 0.000                       | 0.001 | 37  | 0.092   | 0.001   |
| Food assistance   | 3                   | 2222        | -0.046  | 0.061 | 35  | 0.000                       | 0.001 | 37  | -0.046  | 0.446   |
| Public assistance | 13                  | 14332       | -0.074  | 0.018 | 35  | 0.000                       | 0.001 | 37  | -0.074  | 0.001   |

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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# Training with work experience for adults, not targeting welfare recipients

## Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated November 2015.

Program Description: Unemployed adults may receive job search and placement assistance, adult basic education, ESL and GED preparation, vocational training, or support services such as child care and housing support. All participants in these programs also receive some type of work experience, paid or unpaid. Most studies define the adult population to be age 18 and over. Treatment may be sequential, where participants first undergo training and then receive work experience, or follow individualized employment plans for each participant. Community organizations, Unemployment Insurance programs, or federally or state-funded programs administered by state, county, or local government agencies typically provide these services to dislocated workers or low-income individuals.\* Programs last anywhere from two to 18 months.

\*The low-income population may be defined in a variety of ways, including all workers in the 25th percentile of hourly wages, individuals at or below 130% of the federal poverty line, individuals at or below 200% of the federal poverty line, or an income that meets eligibility requirements for welfare or food stamps.

### Benefit-Cost Summary Statistics Per Participant

| Benefits to:               |                  |                                 |         |
|----------------------------|------------------|---------------------------------|---------|
| Taxpayers                  | \$2,394          | Benefit to cost ratio           | \$1.30  |
| Participants               | \$4,985          | Benefits minus costs            | \$1,226 |
| Others                     | \$0              | Chance the program will produce |         |
| Indirect                   | (\$2,011)        | benefits greater than the costs | 55 %    |
| <b>Total benefits</b>      | <b>\$5,368</b>   |                                 |         |
| <b>Net program cost</b>    | <b>(\$4,142)</b> |                                 |         |
| <b>Benefits minus cost</b> | <b>\$1,226</b>   |                                 |         |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>           | Benefits to:   |                |                     |                       |                |
|--|----------------|----------------|---------------------|-----------------------|----------------|
|  | Participants   | Taxpayers      | Others <sup>2</sup> | Indirect <sup>3</sup> | Total          |
| Labor market earnings associated with employment | \$5,010        | \$2,275        | \$0                 | \$0                   | \$7,284        |
| Public assistance                                | (\$74)         | \$174          | \$0                 | \$86                  | \$186          |
| Food assistance                                  | \$50           | (\$55)         | \$0                 | (\$28)                | (\$33)         |
| Adjustment for deadweight cost of program        | \$0            | \$0            | \$0                 | (\$2,070)             | (\$2,070)      |
| <b>Totals</b>                                    | <b>\$4,985</b> | <b>\$2,394</b> | <b>\$0</b>          | <b>(\$2,011)</b>      | <b>\$5,368</b> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

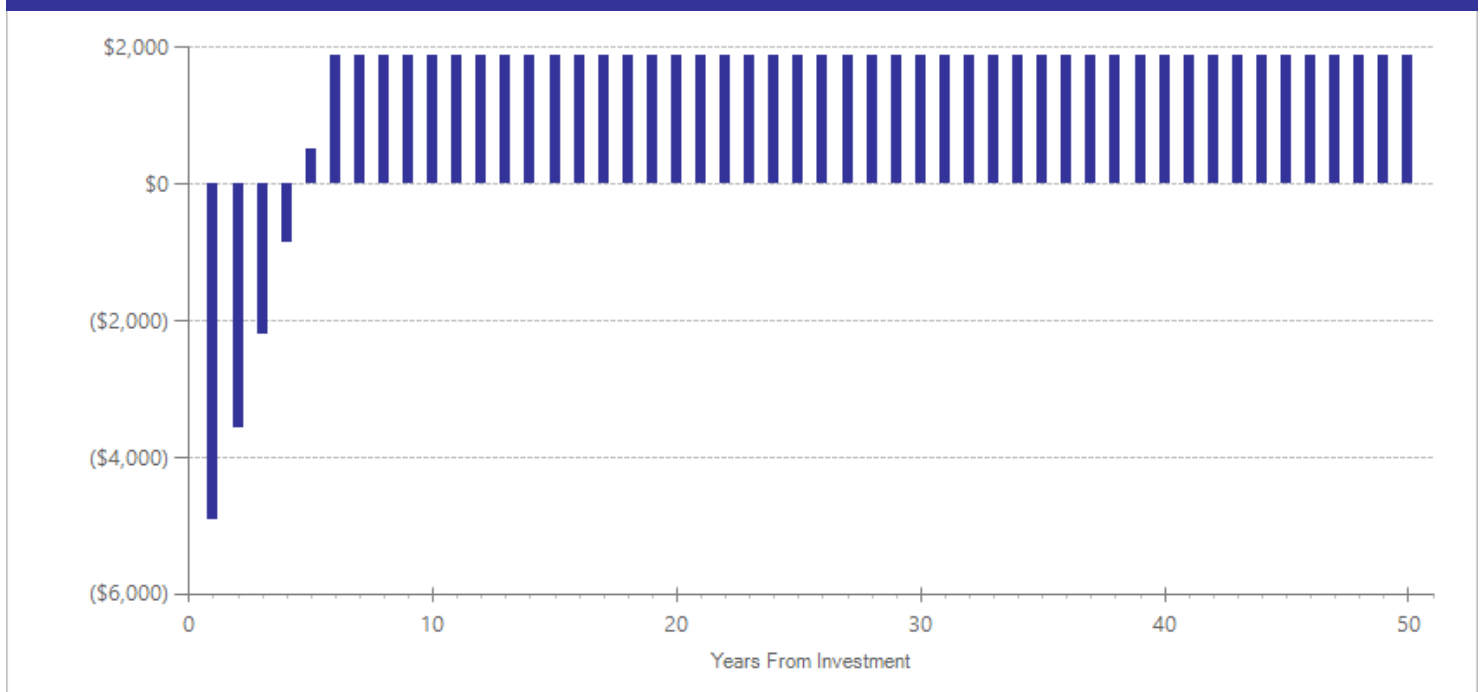
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |           |
|------------------|-------------|--------------|--|-----------|
| Program costs    | \$4,102     | 2014         | Present value of net program costs (in 2016 dollars) | (\$4,142) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 66 %      |

On average, these programs last about six months, although services may last anywhere from two to 18 months. We estimated the average annual cost of treatment per participant using data from studies in our meta-analysis that report cost estimates (Corson & Haimson, 1996; Decker et al., 2000; Farrell, 2000; Hollenbeck, 2009; Hollenbeck & Huang, 2003; Schochet et al., 2012). Costs vary by study but may include administrative costs, employment services, case management, eligibility-related services, foregone earnings, tuition payments, allowances, support services such as transportation assistance and child care costs, and wage subsidies.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                   |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     | ES  | p-value |
|                   |                     |             | ES  | SE    | Age | ES                          | SE    | Age |   |         |
| Earnings*         | 17                  | 59470       | 0.045   | 0.021 | 47  | 0.000                       | 0.018 | 48  | 0.048   | 0.031   |
| Employment        | 15                  | 48173       | 0.079   | 0.066 | 47  | 0.000                       | 0.018 | 48  | 0.082   | 0.239   |
| Food assistance   | 6                   | 14460       | 0.007   | 0.030 | 47  | 0.000                       | 0.018 | 48  | 0.007   | 0.827   |
| Public assistance | 6                   | 14984       | -0.012  | 0.026 | 47  | 0.000                       | 0.018 | 48  | -0.014  | 0.627   |

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

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## Case management for former welfare recipients Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated November 2015.

Program Description: Case managers work with former TANF/AFDC recipients, often in low-wage jobs, in individual or group sessions to provide counseling, job search assistance or job retention services through orientations, assessments, interviews, or telephone calls. Case managers often provide referrals to child care subsidies, transportation assistance, and other support services. They may also refer clients to education and training, particularly if job searches are unsuccessful. Welfare agencies and state employment departments provide program services for approximately one year.

### Benefit-Cost Summary Statistics Per Participant

| Benefits to:            |                  |                                 |           |
|-------------------------|------------------|---------------------------------|-----------|
| Taxpayers               | \$426            | Benefit to cost ratio           | (\$0.29)  |
| Participants            | \$15             | Benefits minus costs            | (\$3,815) |
| Others                  | \$0              | Chance the program will produce |           |
| Indirect                | (\$1,305)        | benefits greater than the costs | 19 %      |
| <u>Total benefits</u>   | <u>(\$865)</u>   |                                 |           |
| <u>Net program cost</u> | <u>(\$2,950)</u> |                                 |           |
| Benefits minus cost     | (\$3,815)        |                                 |           |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>           | Benefits to: |              |                     |                       |                |
|--|--------------|--------------|---------------------|-----------------------|----------------|
|  | Participants | Taxpayers    | Others <sup>2</sup> | Indirect <sup>3</sup> | Total          |
| Labor market earnings associated with employment | \$207        | \$94         | \$0                 | \$0                   | \$301          |
| Public assistance                                | (\$95)       | \$224        | \$0                 | \$112                 | \$241          |
| Food assistance                                  | (\$97)       | \$108        | \$0                 | \$54                  | \$64           |
| Adjustment for deadweight cost of program        | \$0          | \$0          | \$0                 | (\$1,471)             | (\$1,471)      |
| <u>Totals</u>                                    | <u>\$15</u>  | <u>\$426</u> | <u>\$0</u>          | <u>(\$1,305)</u>      | <u>(\$865)</u> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

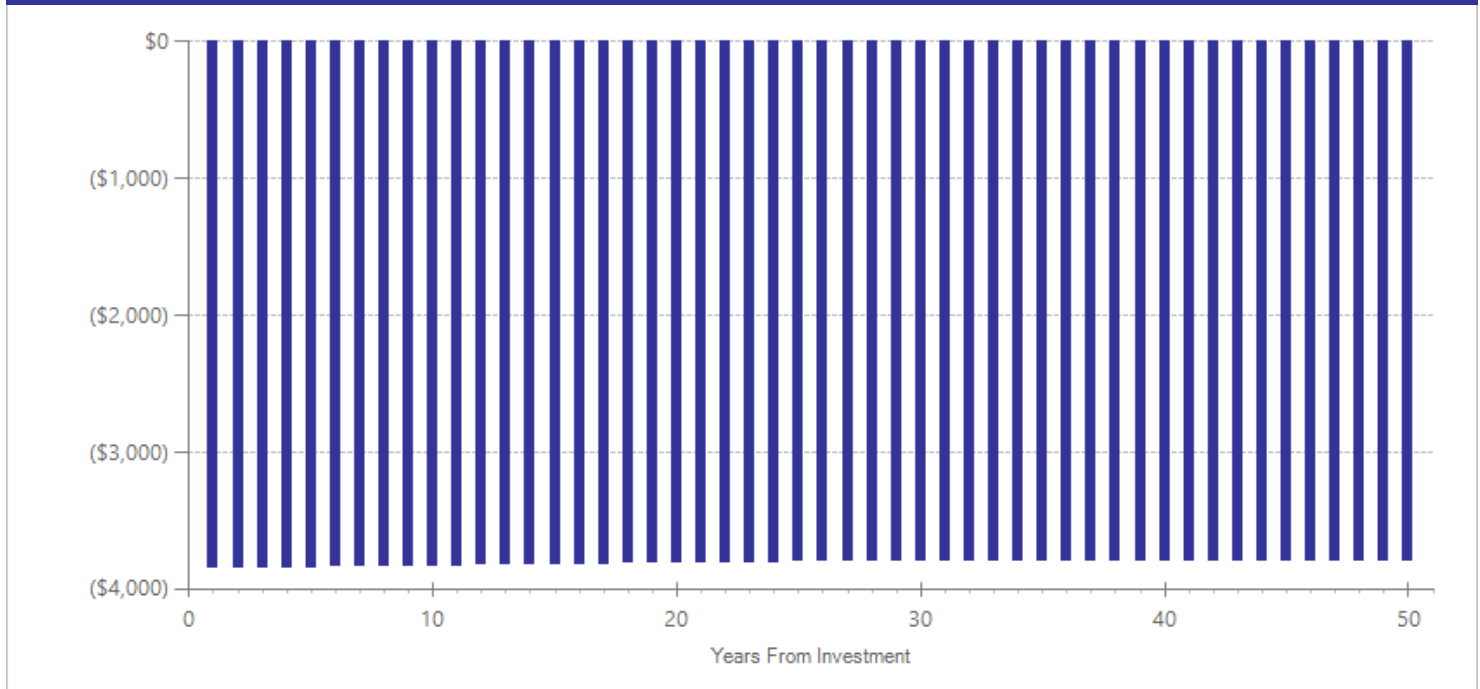
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |           |
|------------------|-------------|--------------|--|-----------|
| Program costs    | \$2,911     | 2014         | Present value of net program costs (in 2016 dollars) | (\$2,950) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 99 %      |

Case management services typically last about one year. We estimated the average annual cost of treatment per participant using data from studies in our meta-analysis that report cost estimates (Hamilton et al., 1996; Kemple et al., 1995; Kornfeld & Rupp, 2000; Miller et al., 2008; Roder & Scrivner, 2005). Costs vary by study but may include central administration, staff salaries, staff benefits, recruitment, assessment services, job placement and retention services, short-term training provided by staff, transportation, and medical treatments.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                   |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     | ES  | p-value |
|                   |                     |             | ES  | SE    | Age | ES                          | SE    | Age |   |         |
| Earnings*         | 7                   | 3393        | 0.025   | 0.024 | 32  | 0.000                       | 0.014 | 33  | 0.025   | 0.309   |
| Employment        | 7                   | 3377        | 0.019   | 0.030 | 32  | 0.000                       | 0.014 | 33  | 0.019   | 0.517   |
| Food assistance   | 7                   | 4396        | -0.012  | 0.021 | 32  | 0.000                       | 0.103 | 33  | -0.012  | 0.578   |
| Public assistance | 7                   | 4396        | -0.015  | 0.021 | 32  | 0.000                       | 0.014 | 33  | -0.015  | 0.482   |

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Case management for welfare recipients or low-income individuals Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated November 2015.

Program Description: Case managers work with TANF/AFDC recipients or low-income\* individuals in individual or group sessions to provide counseling, job search assistance or job retention services through orientations, assessments, interviews, or telephone calls. Case managers usually provide referrals to child care subsidies, transportation assistance, and other support services. They may also refer clients to education and training, particularly if job searches are unsuccessful. Case management may end when clients find employment, or continue with post-employment support services. Nonprofit organizations, local welfare agencies, or for-profit employment companies usually provide these program services, lasting anywhere from one month to two years.

\* The low-income population may be defined in a variety of ways, including all workers in the 25th percentile of hourly wages, individuals at or below 130% of the federal poverty line, individuals at or below 200% of the federal poverty line, or an income that meets eligibility requirements for welfare or food stamps.

### Benefit-Cost Summary Statistics Per Participant

| Benefits to:            |                  |                                 |           |
|-------------------------|------------------|---------------------------------|-----------|
| Taxpayers               | \$286            | Benefit to cost ratio           | (\$0.30)  |
| Participants            | \$217            | Benefits minus costs            | (\$3,885) |
| Others                  | \$0              | Chance the program will produce |           |
| Indirect                | (\$1,406)        | benefits greater than the costs | 17 %      |
| <u>Total benefits</u>   | <u>(\$903)</u>   |                                 |           |
| <u>Net program cost</u> | <u>(\$2,982)</u> |                                 |           |
| Benefits minus cost     | (\$3,885)        |                                 |           |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>           | Benefits to: |              |                     |                       |                |
|--|--------------|--------------|---------------------|-----------------------|----------------|
|  | Participants | Taxpayers    | Others <sup>2</sup> | Indirect <sup>3</sup> | Total          |
| Labor market earnings associated with employment | \$261        | \$119        | \$0                 | \$0                   | \$380          |
| Public assistance                                | (\$95)       | \$224        | \$0                 | \$112                 | \$240          |
| Food assistance                                  | \$51         | (\$57)       | \$0                 | (\$28)                | (\$34)         |
| Adjustment for deadweight cost of program        | \$0          | \$0          | \$0                 | (\$1,489)             | (\$1,489)      |
| <b>Totals</b>                                    | <b>\$217</b> | <b>\$286</b> | <b>\$0</b>          | <b>(\$1,406)</b>      | <b>(\$903)</b> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

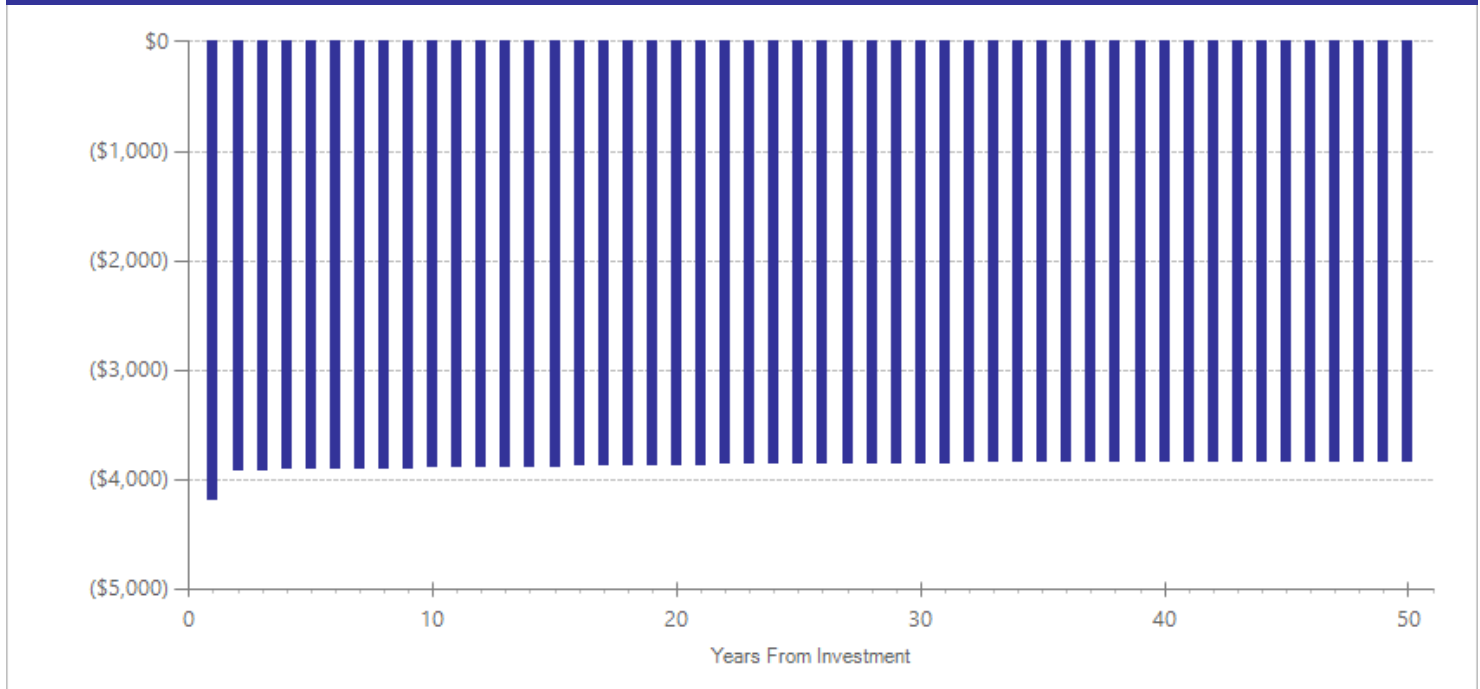
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |           |
|------------------|-------------|--------------|--|-----------|
| Program costs    | \$2,911     | 2014         | Present value of net program costs (in 2016 dollars) | (\$2,982) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 99 %      |

On average, case management services last about a year, but can range from one month to two years. We estimated the average annual cost of treatment per participant using data from studies in our meta-analysis that report cost estimates (Hamilton et al., 1996; Kemple et al., 1995; Kornfeld & Rupp, 2000; Miller et al., 2008; Roder & Scrivner, 2005). Costs vary by study but may include central administration, staff salaries, staff benefits, recruitment, assessment services, job placement and retention services, short-term training provided by staff, transportation, and medical treatments.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                   |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     | ES  | p-value |
|                   |                     |             | ES  | SE    | Age | ES                          | SE    | Age |   |         |
| Earnings*         | 16                  | 30680       | 0.015   | 0.009 | 35  | 0.000                       | 0.014 | 36  | 0.015   | 0.096   |
| Employment        | 15                  | 26520       | 0.032   | 0.018 | 35  | 0.000                       | 0.014 | 36  | 0.032   | 0.085   |
| Food assistance   | 10                  | 22854       | 0.007   | 0.016 | 35  | 0.000                       | 0.014 | 36  | 0.007   | 0.688   |
| Public assistance | 11                  | 25001       | -0.015  | 0.020 | 35  | 0.000                       | 0.014 | 36  | -0.015  | 0.469   |

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.



Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

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## Training, no work experience Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated November 2015.

Program Description: Participants receive job search and placement assistance, adult basic education, ESL and GED preparation, vocational training, or support services such as child care and housing support. Training targets occupations as diverse as electromechanics, nursing, and construction, among many others. Some of these programs take place at community colleges, targeting adults who failed to graduate high school, while others occur at proprietary trade schools and colleges. Community-based organizations and welfare agencies may also provide these program services. They typically target TANF/AFDC recipients, dislocated workers, or low-income\* individuals, lasting anywhere from one month to two years.

\*The low-income population may be defined in a variety of ways, including all workers in the 25th percentile of hourly wages, individuals at or below 130% of the federal poverty line, individuals at or below 200% of the federal poverty line, or an income that meets eligibility requirements for welfare or food stamps.

### Benefit-Cost Summary Statistics Per Participant

| Benefits to:               |                  |                                 |           |
|----------------------------|------------------|---------------------------------|-----------|
| Taxpayers                  | \$2,404          | Benefit to cost ratio           | \$0.47    |
| Participants               | \$5,813          | Benefits minus costs            | (\$4,470) |
| Others                     | \$0              | Chance the program will produce |           |
| Indirect                   | (\$4,294)        | benefits greater than the costs | 39 %      |
| <b>Total benefits</b>      | <b>\$3,923</b>   |                                 |           |
| <b>Net program cost</b>    | <b>(\$8,394)</b> |                                 |           |
| <b>Benefits minus cost</b> | <b>(\$4,470)</b> |                                 |           |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

### Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>           | Benefits to:   |                |                     |                       |                |
|--|----------------|----------------|---------------------|-----------------------|----------------|
|  | Participants   | Taxpayers      | Others <sup>2</sup> | Indirect <sup>3</sup> | Total          |
| Labor market earnings associated with employment | \$5,692        | \$2,585        | \$0                 | \$0                   | \$8,277        |
| Public assistance                                | \$38           | (\$90)         | \$0                 | (\$45)                | (\$96)         |
| Food assistance                                  | \$82           | (\$91)         | \$0                 | (\$46)                | (\$54)         |
| Adjustment for deadweight cost of program        | \$0            | \$0            | \$0                 | (\$4,203)             | (\$4,203)      |
| <b>Totals</b>                                    | <b>\$5,813</b> | <b>\$2,404</b> | <b>\$0</b>          | <b>(\$4,294)</b>      | <b>\$3,923</b> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

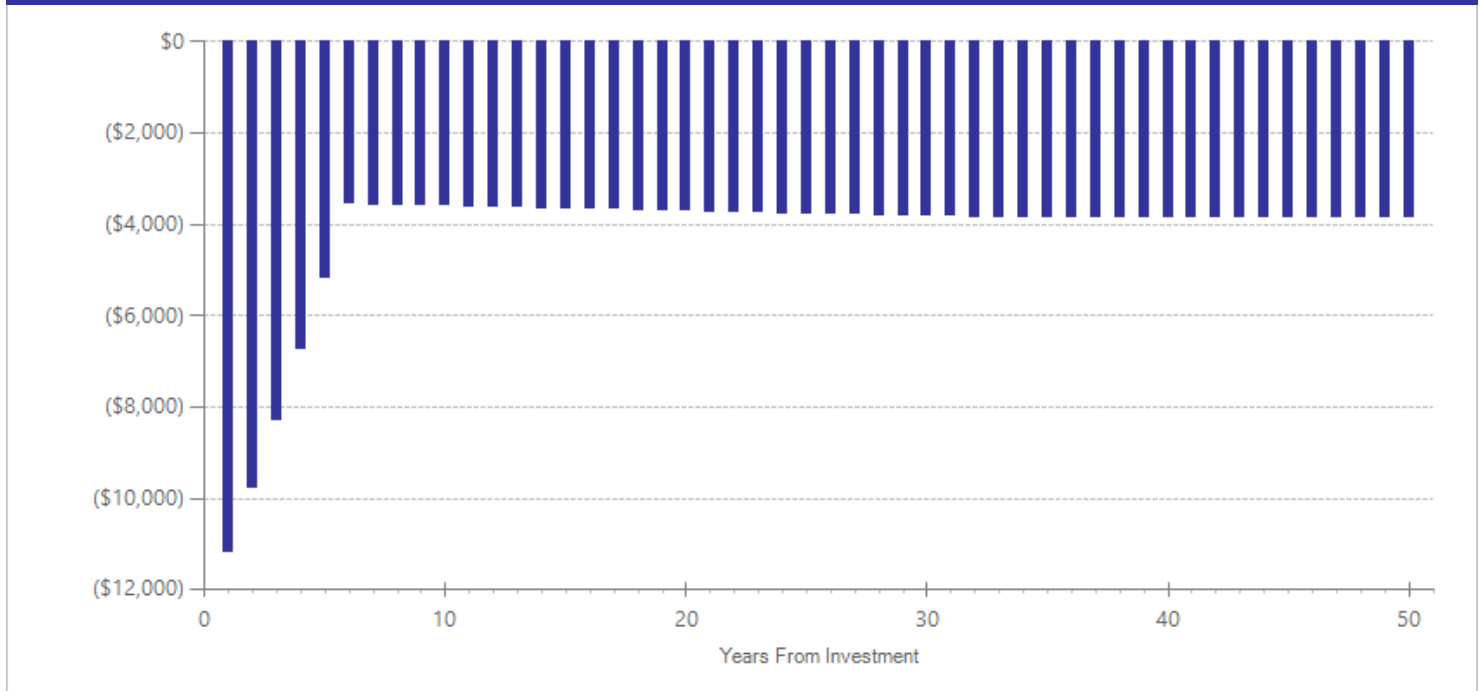
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |           |
|------------------|-------------|--------------|--|-----------|
| Program costs    | \$8,284     | 2014         | Present value of net program costs (in 2016 dollars) | (\$8,394) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 31 %      |

These programs typically last anywhere from one month to two years. We estimated the average annual cost of treatment per participant using data from studies in our meta-analysis that report cost estimates (Bloom et al., 2002; Burghardt et al., 1992; Cave et al., 1993; Hollenbeck & Huang, 2014; Hollenbeck & Huang, 2006; Hollenbeck & Huang, 2003). Costs vary by study but may include foregone earnings, foregone tax receipts, tuition payments if any, support services such as transportation and child care, medical/dental services, and safety net services.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                   |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     | ES  | p-value |
|                   |                     |             | ES  | SE    | Age | ES                          | SE    | Age |   |         |
| Earnings*         | 41                  | 289201      | 0.062   | 0.013 | 37  | 0.000                       | 0.032 | 38  | 0.062   | 0.001   |
| Employment        | 41                  | 289201      | 0.085   | 0.024 | 37  | 0.000                       | 0.032 | 38  | 0.085   | 0.001   |
| Food assistance   | 25                  | 171188      | 0.011   | 0.008 | 37  | 0.000                       | 0.032 | 38  | 0.011   | 0.163   |
| Public assistance | 25                  | 169101      | 0.006   | 0.008 | 37  | 0.000                       | 0.032 | 38  | 0.006   | 0.446   |

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

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## Training with work experience for youth

### Workforce Development

Benefit-cost estimates updated December 2017. Literature review updated November 2015.

Program Description: Youth ages 16-24 may receive job search and placement assistance, adult basic education, ESL and GED preparation, vocational training, or support services such as child care and housing support. All participants in these programs also receive some type of work experience, paid or unpaid. Treatment may be sequential, where participants first undergo training and then receive work experience, or follow individualized employment plans for each participant. Community organizations, welfare agencies, and federally or state-funded programs administered by state, county, or local government agencies typically provide these services to low-income youth.\* We do not include programs that target youth still attending high school, so these participants are often high school dropouts. Programs may last anywhere from two to ten months.

\*The low-income population may be defined in a variety of ways, including all workers in the 25th percentile of hourly wages, individuals at or below 130% of the federal poverty line, individuals at or below 200% of the federal poverty line, or an income that meets eligibility requirements for welfare or food stamps

#### Benefit-Cost Summary Statistics Per Participant

| Benefits to:            |                  |                                 |           |
|-------------------------|------------------|---------------------------------|-----------|
| Taxpayers               | \$823            | Benefit to cost ratio           | (\$0.28)  |
| Participants            | \$237            | Benefits minus costs            | (\$9,538) |
| Others                  | \$287            | Chance the program will produce |           |
| Indirect                | (\$3,407)        | benefits greater than the costs | 34 %      |
| <u>Total benefits</u>   | <u>(\$2,060)</u> |                                 |           |
| <u>Net program cost</u> | <u>(\$7,478)</u> |                                 |           |
| Benefits minus cost     | (\$9,538)        |                                 |           |

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2016). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

#### Detailed Monetary Benefit Estimates Per Participant

| Benefits from changes to: <sup>1</sup>           | Benefits to: |              |                     |                       |                  |
|--|--------------|--------------|---------------------|-----------------------|------------------|
|  | Participants | Taxpayers    | Others <sup>2</sup> | Indirect <sup>3</sup> | Total            |
| Crime  | \$0          | \$115        | \$287               | \$58                  | \$460            |
| Labor market earnings associated with employment | \$393        | \$178        | \$0                 | \$0                   | \$571            |
| Public assistance                                | (\$286)      | \$674        | \$0                 | \$337                 | \$725            |
| Food assistance                                  | \$131        | (\$145)      | \$0                 | (\$72)                | (\$86)           |
| Adjustment for deadweight cost of program        | \$0          | \$0          | \$0                 | (\$3,730)             | (\$3,730)        |
| <u>Totals</u>                                    | <u>\$237</u> | <u>\$823</u> | <u>\$287</u>        | <u>(\$3,407)</u>      | <u>(\$2,060)</u> |

<sup>1</sup>In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

<sup>2</sup>"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

<sup>3</sup>"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

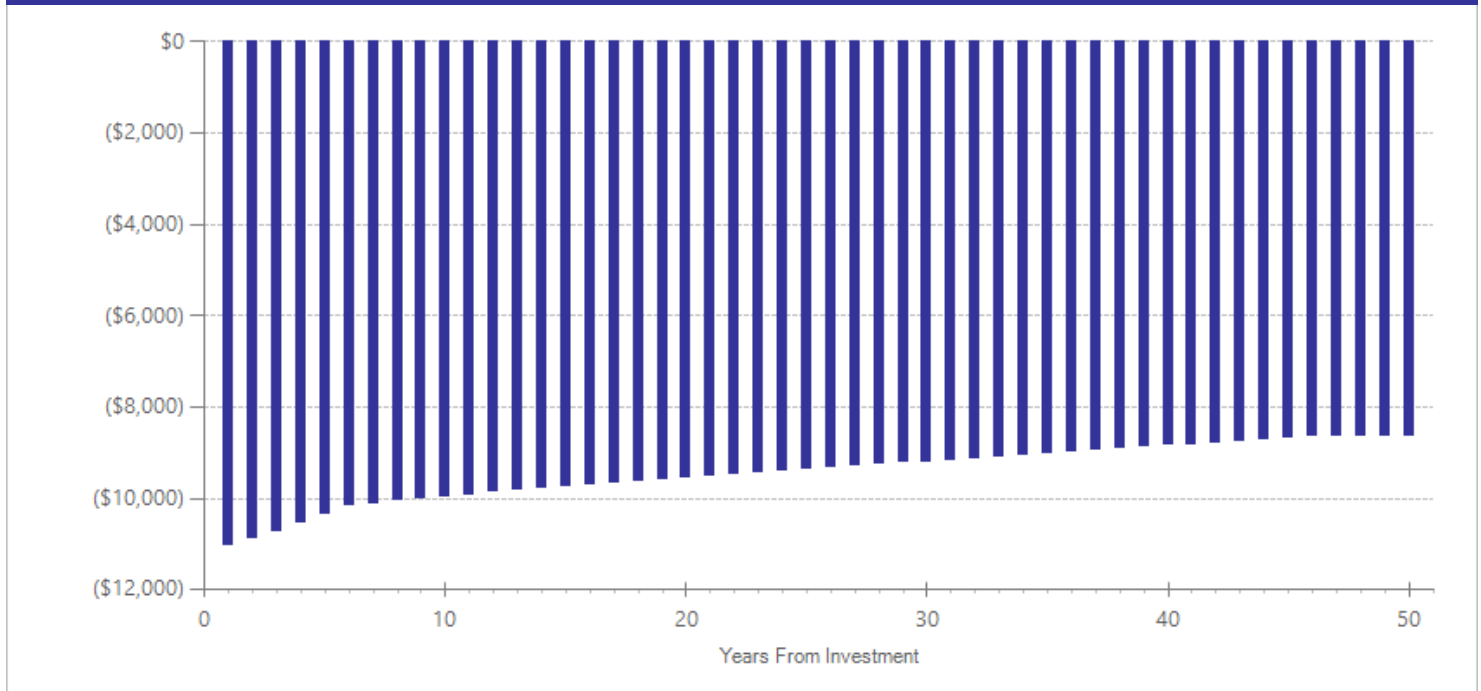
## Detailed Annual Cost Estimates Per Participant

|                  | Annual cost | Year dollars | Summary  |           |
|------------------|-------------|--------------|--|-----------|
| Program costs    | \$7,356     | 2014         | Present value of net program costs (in 2016 dollars) | (\$7,478) |
| Comparison costs | \$0         | 2014         | Cost range (+ or -)                                  | 48 %      |

These programs typically last between two and ten months. We estimated the average annual cost of treatment per participant using data from studies in our meta-analysis that report cost estimates (Hollenbeck & Huang, 2003; Kerachsky et al., 1985; Orr et al., 1996; Quint et al., 1997). Costs vary by study but may include administrative costs, employment services, case management, eligibility-related services, foregone earnings, tuition payments, allowances, support services such as transportation assistance and child care costs, and wage subsidies.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

## Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

## Meta-Analysis of Program Effects

| Outcomes measured | No. of effect sizes | Treatment N | Adjusted effect sizes and standard errors used in the benefit-cost analysis |       |     |                             |       |     | Unadjusted effect size (random effects model) |         |
|-------------------|---------------------|-------------|---|-------|-----|-----------------------------|-------|-----|---|---------|
|                   |                     |             | First time ES is estimated  |       |     | Second time ES is estimated |       |     |   |         |
|                   |                     |             | ES  | SE    | Age | ES                          | SE    | Age | ES  | p-value |
| Crime             | 5                   | 5479        | -0.030  | 0.030 | 25  | -0.030                      | 0.030 | 35  | -0.049  | 0.097   |
| Earnings*         | 9                   | 11129       | 0.001   | 0.025 | 25  | 0.000                       | 0.018 | 26  | 0.004   | 0.882   |
| Employment        | 6                   | 7923        | 0.006   | 0.053 | 25  | 0.000                       | 0.018 | 26  | 0.012   | 0.840   |
| Food assistance   | 7                   | 6474        | 0.018   | 0.022 | 25  | 0.000                       | 0.018 | 26  | 0.016   | 0.455   |
| Public assistance | 8                   | 7887        | -0.048  | 0.022 | 25  | 0.000                       | 0.018 | 26  | -0.063  | 0.003   |

\*The effect size for this outcome indicates percentage change, not a standardized mean difference effect size.

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