

*The University of Arizona*  
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# National Cross-Site Evaluation

## Juvenile Drug Courts and Reclaiming Futures

*Cross-Site Report: Cost Analysis Overview and Results Narrative*

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## **A: Overview**

The ongoing multi-site evaluation of Juvenile Drug Court/Reclaiming Futures (JDC/RF) by the University of Arizona's Southwest Institute for Research on Women (UA-SIROW) includes an economic evaluation, which examines the costs and consequences of implementing Reclaiming Futures (RF) at five unique program sites across the United States. The economic analysis estimates the direct and indirect costs of the services provided by the JDC/RF programs. The savings from reduced substance use and criminal activity will also be examined on an aggregate level across all JDC/RF sites to obtain a sense of the overall economic impact of JDC/RF. Since program operations and resources varied considerably among sites, site-specific cost analyses were conducted to capture the unique set of resources and associated costs of each JDC/RF program. Site-specific cost analysis reports were generated and shared with each site for their review and approval. Each report includes the following summary statistics: total annual program cost, annual cost per participant, weekly cost per participant, and average cost per participant over the duration of the program (based on participants' average length of stay). The cost estimates are broken out by direct expenditures (i.e., direct costs incurred by the program) and opportunity costs, which include the value of all resources that were invested during the selected cost analysis year, both paid and unpaid. Presenting the results in this way allows a comparison of direct expenditures for the JDC/RF program with the full value of all resources invested by the sites, volunteers, and other stakeholders. The specific costs attributable to RF are also estimated separately to highlight the additional resources that were required to incorporate RF into existing JDC programs. This report does not provide an estimate of the net economic benefits (i.e., total benefits minus total costs) for the JDC/RF programs, which (as mentioned above) will be examined on an aggregate level across all JDC/RF sites in future planned analyses.

## **B: Program Summary**

This report presents results from five JDC/RF sites that were funded in 2009 and 2010. Across the five sites, there were a total of nine specialty court programs for which cost data were collected individually. Within sites, participants may have received services from multiple providers and had access to different supplementary services (e.g., family services, financial services).

## **C: Cost Analysis Approach**

The cost analysis was conducted from the provider and societal perspectives, meaning we accounted for all resources and associated costs incurred by the juvenile justice system, behavioral health care providers, and community agencies to provide JDC/RF services. The opportunity costs of volunteer time and other subsidized resources were also included. Cost data were collected primarily from probation, court, and treatment provider financial records

and represent a single fiscal year when the project was at full capacity (typically year 3 of the grant, with some overlap into year 4). Additional cost estimates were obtained using expert judgment from key program personnel and using self-report data available from the Global Appraisal of Individual Needs (GAIN) instruments. Where direct salary information was not available (i.e., to estimate the value of volunteer time), the Occupational Information Network (O\*Net) was used to identify occupations with similar job duties and provide relevant salary estimates. Cost data presented in this report are organized into the following general categories: (1) criminal justice system costs (including court and probation), (2) substance use and mental health treatment, (3) community services and volunteers, and (4) miscellaneous resources. The approach to estimating costs for each category is described below. All cost estimates are reported in 2012 dollars, meaning the costs reflect the value of a dollar in that year.

### *Criminal Justice System Costs*

Criminal justice system costs include time invested by court personnel, the prosecuting attorney, the defense attorney, and, where available, the guardian ad litem. Court personnel included the presiding judges, magistrates, clerks, bailiffs, judicial assistants, and administrative/office staff. The costs associated with the time invested by these criminal justice and legal staff were calculated using information on the salaries and benefits of each position and the estimated time spent in the court room for JDC/RF cases (typically 10-20% of the judges and lawyers' time). In a few cases, the costs of court personnel and legal staff were included as part of the indirect rate for all court services/operations as we did not have detailed information on salaries and benefits. Additional costs were those associated with building (space) use, transportation, and an indirect rate applied to salaries to account for administrative personnel and supplies (i.e., overhead).

Criminal justice system costs also include the costs of probation and juvenile drug court (JDC) services. Probation staff consisted of probation officers and their supervisors. Most of the probation officers for these drug court programs dedicated 100% of their time to JDC/RF participants. Personnel in this category also included drug court staff such as the drug court coordinator, case managers, and project director. Salary and benefits were provided for all staff in this category. All programs conducted drug screens (e.g., breath, urine, etc.) regularly, and most were able to provide actual paid or contracted costs for the tests and lab services. For one site, cost information was not directly available for these services. Costs for this site were estimated using two sources: 1) participants' self-reported frequency of drug testing from the GAIN at follow-up, and 2) the average cost of a drug screen as reported in state corrections expenditure reports available on the internet. Costs of participant incentives provided to encourage compliance with program requirements (e.g., gift cards) and transportation vouchers are grouped under a category "other participant assistance." For one site, the costs of incentives and other assistance could not clearly be distinguished from costs for other JDC program supplies and therefore were not broken out for this category.

Sanctions for failing to meet JDC/RF program requirements are included in criminal justice system costs. All sites used detention time as a sanction. The cost of days in detention was either provided directly, or, when not available as an aggregate estimate, was calculated using participant-reported data in the GAIN based on follow-up interviews conducted during the fiscal year of interest. The number of days reported were multiplied by the cost of a day in detention as provided by probation staff, or from state corrections expenditure reports available on the internet. Other sanctions costs included time in detention alternatives programs and canine searches.

#### *Substance Use and Mental Health Treatment Costs*

Substance use and mental health treatment costs primarily include personnel (i.e., administrative and clinical staff), miscellaneous supplies related to treatment provision, and other overhead-related expenses (e.g., building/facility costs, staff benefits, and administrative services). Cost data for these services were obtained from financial records provided by the treatment agencies, based on actual payments or contracted rates to treatment agencies from court/probation records, or based on electronic records of types of services received, number of participants receiving these services, and existing cost-per-service estimates. Because few sites were able to separate the cost of staff time from the rest of the paid or contracted costs, this category is mostly presented here as overall contract rate/indirect rate. For two of the five sites, specific information regarding staff time spent administering the GAIN instruments was provided allowing us to report assessment costs separately from the contracted rates for treatment services. Participants primarily received treatment using the Seven Challenges<sup>®</sup> Program, the Adolescent Community Reinforcement Approach (A-CRA), and/or Motivational Enhancement Therapy/Cognitive Behavioral Therapy (MET/CBT). Within a single site, participants may have received treatment from one or more agencies. Most programs provided outpatient or intensive outpatient care, with a few participants receiving residential services.

#### *Community Services and Volunteer Costs*

Community services and volunteer costs include contracted services from community agencies as well as the estimated value of donated community services and volunteer time. A variety of community services were available to JDC/RF participants to provide educational opportunities, life skills development, art, music, and other pro-social activities. The cost analysis included a subset of selected community services that were an integral part of each program during the fiscal year considered. Because participation in many of these services was somewhat unpredictable and subject to availability, they are captured as secondary costs to the core operations costs of the JDC/RF programs.

Volunteers were an important part of all of the JDC/RF programs. A key volunteer cost reflects the value of time invested by the Community Fellows, committed members of the team who served as liaisons between the court and community agencies providing services and pro-social activities to participants. The Community Fellows were not compensated. However, we valued

the opportunity cost of their time at an hourly rate equivalent to that of a Public Relations Specialist (from O\* Net). The rate is based on a median annual salary of \$54,170 and an hourly rate of \$26.04. Other JDC/RF volunteers served as community members on the Change Team or Advisory Boards. Change Team meetings lasted about one hour and were typically held once per month. To estimate the value of the Community Fellow and other volunteers' time, we applied the hourly rate for a Public Relations Specialist to the number of attendees multiplied by the number of meetings held during the fiscal year. Mentors (also referred to as youth partners) were sometimes compensated and sometimes volunteers. When compensated, the actual amount paid was included as part of the Community Services category. The services of mentors who volunteered their time were similar to those of a Social and Human Services Assistant from O\*Net, and were valued based on an annual salary of \$28,850 (\$13.87/hour). A number of educational opportunities were also available due to the efforts of volunteers, including teaching assistants and provision of life skills and health classes. Hourly costs applied to these positions depended on the topic of the course and type of duties performed, and were provided by a variety of sources including local job postings for the positions, rates paid to individuals employed in similar positions locally, or, when these were not available, estimated salaries from O\*Net. The hourly rates ranged from \$9.67 (i.e., teaching assistants) to \$23.66 (i.e., health educators). These costs do not reflect courses offered via the formal educational system, which is discussed further under Miscellaneous Costs.

Most sites had a student intern who worked in the probation department doing various levels of administrative office tasks. Based on compensation data from O\*Net for a General Office Assistant, the value of this time was calculated based on an annual salary of \$27,470 (\$13.21/hour).

#### *Miscellaneous Resources Costs*

Miscellaneous resource costs include training and technical assistance from the Reclaiming Futures-National Program Office (RF-NPO) and the National Council of Juvenile and Family Court Judges (NCJFCJ). The RF-NPO and NCJFCJ funded these services for the sites, and provided us with financial records to be able to value the training/technical assistance component. In addition, all sites were required to use the GAIN as part of their grant requirements, however, assessment of all participants is a key part of the Reclaiming Futures Model, therefore costs to license and use the GAIN are also included here. Certain supplies and indirect costs (e.g., travel, cell phones, office supplies) were presented as an aggregated overhead rate, and are included under 'Other supplies/indirects'. There were other contracted services available at some of the sites that did not appropriately fit into the categories above. These include groups for the participants' parents and formal education provided by the school district (e.g., charter schools within the context of IOP treatment programs). Most sites also paid for some type of program evaluation services. While this cost could be considered a requirement of the grants each site received, upon questioning, every site indicated that they would pay for these services regardless of the grant requirements because of their value to the program.

## D: Results: Overall and by Cost Category

Table 1 reports the summary statistics by site and the cross-site descriptive measures. The average (mean) total annual cost of JDC/RF programs during the selected year for the analysis (years 3-4 of operations) was \$1,712,482, with a wide range from \$782,001 minimum to \$3,442,448 maximum. This variation is in part due to the fact that some sites had only one program option available for all participants, whereas other sites had two or three “treatment tracks.” Sites with multiple treatment tracks had much larger participant case-flow and typically worked with a greater number and variety of treatment providers. The total number of new admissions in fiscal/calendar year 2012 across the five sites was 245, and the average daily census (average number of participants accessing services per day) was 35.2 with a range from 12 to 56. In terms of the average length-of-stay in treatment, the shortest duration in JDC/RF was 32.3 weeks and the longest 56.7 weeks. The mean length-of-stay across all JDC/RF programs was 40.9 weeks. Based on participant case-flow information, the average annual cost per participant was \$50,216 with a range from \$27,196 to \$65,167. The average weekly cost per participant was \$963 with a range from \$522 to \$1,250. Based on the mean length-of-stay, the average cost per participant over the duration of the intervention was \$38,288, with the lowest “average cost per JDC/RF episode” being \$19,299 and the highest \$49,369 per participant.

Table 1: Summary Costs of JDC/RF

	Total annual program cost	Annual program cost per participant	Average Length-of-stay	Average daily census	Weekly cost per participant	Episode cost per participant
<b>Individual Sites</b>						
1	\$3,442,448	\$61,472	32.3	56	\$1,179	\$38,081
2	\$1,860,643	\$62,021	39	30	\$1,190	\$46,391
3	\$1,552,446	\$35,219	56.7	44.1	\$675	\$38,299
4	\$782,001	\$65,167	39.5	12	\$1,250	\$49,369
5	\$924,658	\$27,196	37	34	\$522	\$19,299

	<b>Total annual program cost</b>	<b>Annual program cost per participant</b>	<b>Average Length-of-stay</b>	<b>Average daily census</b>	<b>Weekly cost per participant</b>	<b>Episode cost per participant</b>
<b>Descriptive Measures</b>						
Minimum	\$782,001	\$27,196	32.3	12	\$522	\$19,299
Maximum	\$3,442,661	\$65,167	56.7	56	\$1,250	\$49,369
Mean	\$1,712,482	\$50,216	40.9	35.2	\$963	\$38,288
Standard Deviation	\$1,063,901	\$17,639	9.28	16.42	\$338	\$11,716

The costs for each of the categories contributing to total JDC/RF costs (i.e., criminal justice system, substance and mental health treatment, community services and volunteers, and miscellaneous) are shown in Table 2 by site along with the cross-site descriptive measures. The percentage of total JDC/RF costs that each category represents is provided in parentheses.

On average, the highest costs were associated with the criminal justice system (i.e., court and probation). The average (mean) criminal justice costs for JDC/RF programs in fiscal year/calendar year 2012 was \$867,350, with a wide range from \$322,951 minimum to \$1,663,504 maximum. Substance use and mental health treatment comprised a substantial portion of the costs at most sites, ranging from a minimum of \$65,165 to a maximum of \$1,320,309, with an average of \$401,169. The average annual cost (including both direct expenditures and the value of unpaid resources) of community services/volunteer efforts was \$120,035 with a range from \$7,117 to \$322,587. Miscellaneous costs ranged from a minimum of \$136,049 to a maximum of \$762,124, with an average of \$323,886.

When considered as a portion of the total value of services provided at each site, criminal justice system expenses comprise the highest percentage of costs, ranging from 41% to 67% (though for one site, this is tied by the portion of costs associated with miscellaneous resources). The distribution of costs to the other three categories (substance use and mental health treatment, community services/volunteer efforts, and miscellaneous resources) varied widely across sites. Treatment made up as little as 8% to as much as 38% of cost, community and volunteer services between 0.5% and 11%, and miscellaneous resources between 4% and 42%.

Table 2: Costs of JDC/RF by Category

	<b>Criminal Justice System</b>	<b>Substance and Mental Health Treatment</b>	<b>Community Services and Volunteers</b>	<b>Miscellaneous Costs</b>
<b>Individual Sites</b>				
<b>1</b>	\$1,663,504 (48.3%)	\$1,320,309 (38.4%)	\$322,587 (9.4%)	\$136,049 (4.0%)
<b>2</b>	\$772,726 (41.5%)	\$318,676 (17.1%)	\$7,117 (0.4%)	\$762,124 (41.0%)
<b>3</b>	\$1,043,223 (67.2%)	\$228,735 (14.7%)	\$105,666 (6.8%)	\$174,822 (11.3%)
<b>4</b>	\$322,951 (41.3%)	\$65,165 (8.3%)	\$66,664 (8.5%)	\$327,221 (41.8%)
<b>5</b>	\$534,347 (57.8%)	\$72,958 (7.9%)	\$98,140 (10.6%)	\$219,213 (23.7%)
<b>Descriptive Measures</b>				
<b>Minimum</b>	\$322,951	\$65,165	\$7,117	\$136,049
<b>Maximum</b>	\$1,663,504	\$1,320,309	\$322,587	\$762,124
<b>Mean</b>	\$867,350	\$401,169	\$120,035	\$323,886
<b>Standard Deviation</b>	\$519,857	\$524,876	\$119,699	\$255,207

Note: Percentage of total JDC/RF costs for each cost category is in parentheses.

## E: Direct Expenditures vs. Opportunity Costs

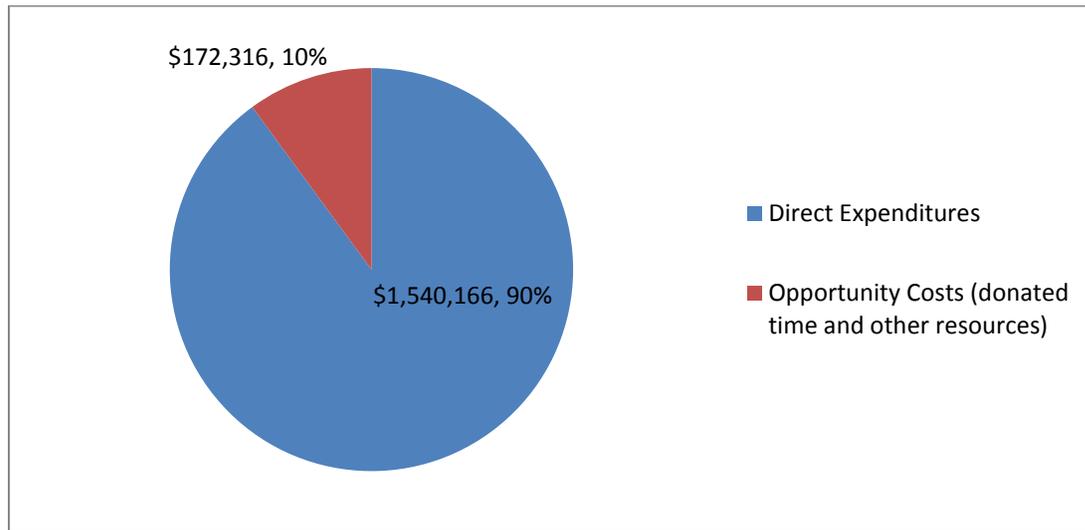
The cost estimates presented above represent the full value of all resources invested in the JDC/RF programs in their third to fourth year of operation. The top half of the table presents estimates of the average cost by resource category as well as the percentage of total cost comprised by each resource category. It should be noted that, while an attempt was made to capture volunteer time and other opportunity costs, there was a great deal of variability in the amount of community involvement, and donated effort and resources reported across sites. Whether this was an actual difference in provision of materials and services or a reporting bias cannot be conclusively determined.

Given that the cost analysis incorporated the value of volunteer time and other resources, the difference between direct expenditures by JDC/RF sites to run the programs (i.e., standard operating costs) and the opportunity cost of the programs (i.e., full value of all resources invested in the program, regardless of cost or funding source) is notable. Figure 1 illustrates the percentage of total JDC/RF costs that are associated with direct expenditures vs. opportunity costs. Of the \$1,712,480 cross-site average annual cost of JDC/RF, 90% (\$1,540,166) represent direct expenditures and 10% (\$172,316) represent donated time and other resources.

Based on direct expenditures only, the average annual cost per JDC/RF participant across all sites was \$43,755. The average weekly cost per participant was \$839. Based on an average length of stay of 40.9 weeks in the JDC/RF programs, the average direct cost over the duration of the intervention was \$34,322. The additional cost per participant associated with donated time and other resources was: \$4,895 per year; \$94 per week, and \$3,840 over the duration of the intervention.

The cost analysis captures direct expenditures along with the value of donated, subsidized, and shared resources. It does not, however, include the savings to the juvenile justice, educational, and public health systems that are generated by successful engagement in the JDC/RF programs. Even modest reductions in the negative consequences associated with substance use and risky behaviors can generate significant savings to society. For instance, one fewer day of illegal activity carries a societal benefit of \$988 (French et al., 2002) and one fewer visit to the emergency department can generate \$6,178 in savings (Owens & Elixhauser, 2003). Other outcomes that are important for this population are improved graduation rates, which can be valued at \$7,300 per year based on the estimated increase in average annual earnings among high school graduates relative to high school dropouts (Pew Research Center, 2014). Additional studies are planned to estimate the net economic benefits of a sample of JDC/RF programs.

Figure 1: Total Cross-site Average Economic Cost of JDC/RF



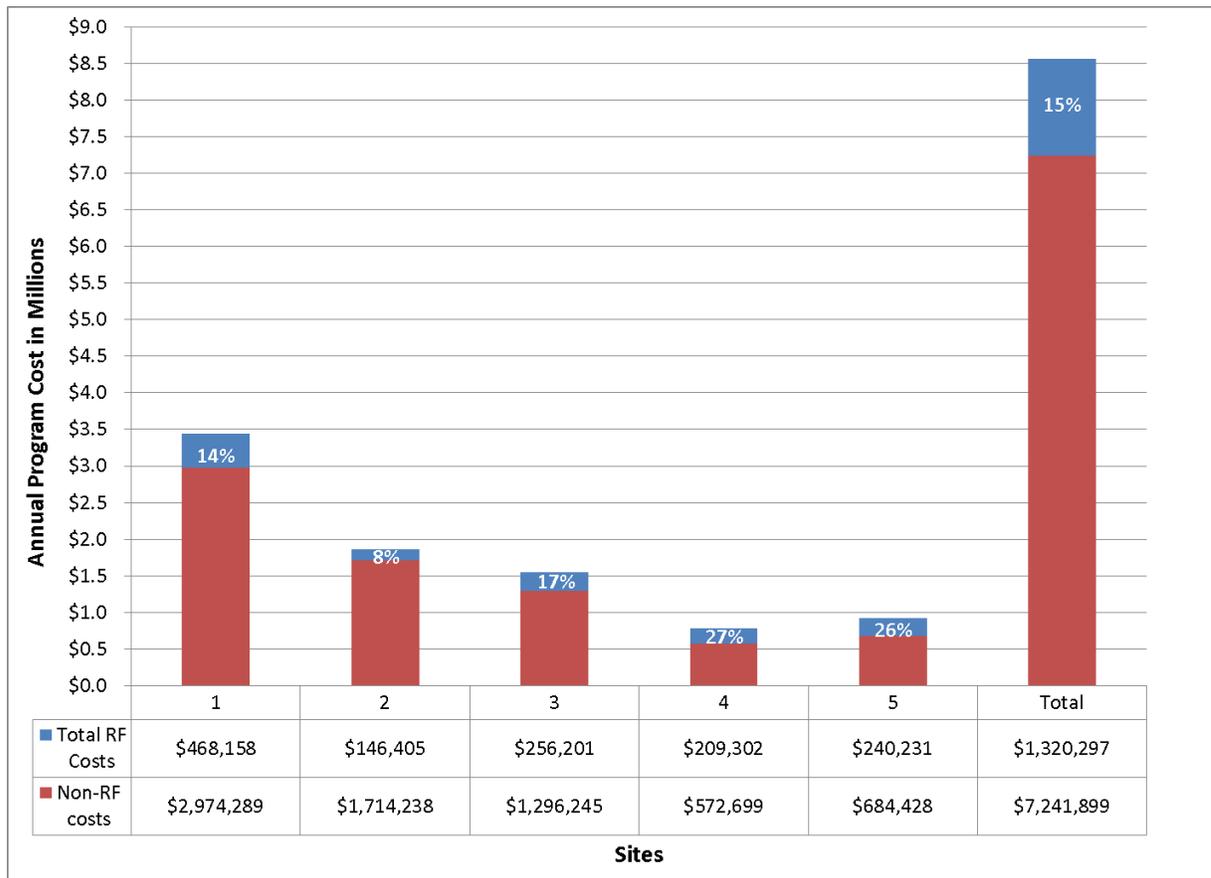
#### **F: Costs Associate with Reclaiming Futures**

The cost estimates above reflect the total cross-site average cost of the JDC programs operating within the RF framework that are included in this study. This provides the economic cost of RF integrated within existing juvenile justice systems, but we also want to describe the incremental costs of RF. With a model utilizing a system-level approach it is challenging to determine the specific costs to isolate. Thus, to best identify these costs, we solicited feedback from multiple staff at each site regarding financial and other implications of RF. A summary of the costs and/or additional responsibilities of adopting RF reported by sites is below.

- **Time** – Staff and volunteer time was the largest opportunity cost resulting from the integration of RF. This included additional time spent by all criminal justice staff involved in the JDC/RF court programs, probation officers and other probation personnel, and substance use treatment providers on Change Team meetings, additional time spent by probation officers and other probation personnel on direct probation services, and time dedicated by the Community Fellow. For the purposes of this evaluation, the only time that could consistently be tracked as distinctly associated with RF was time spent in the Change Team meetings by the fellows and the community volunteers.
- **Evidence Based Treatment** – The RF model states that “interventions should include whatever mix of services is appropriate for each youth, perhaps including (alcohol and other drug) treatment” (Reclaiming Futures; <http://reclaimingfutures.org/model/model-how-it-works>) and the RF motto is more treatment, better treatment, beyond treatment. In response to the goal of the RF model to implement *better treatment*, sites awarded these grants were required to replace their treatment as usual with an evidence based model such as The Seven Challenges® Program or Adolescent

- Community Reinforcement Approach. Thus additional cost associated with using an evidence based treatment model over the standard treatment services typically provided to drug court participants was also considered an RF cost. Providing these evidence based treatments typically involves some costs for training, quality assurance, and certification not required for other modalities. We were not able to estimate the costs of implementing evidence based treatment here, but note that it would likely be a tangible cost to a new site adopting RF for the first time. Due to this limitation, we acknowledge that our estimate of RF-specific costs is likely a lower bound estimate.
- **Assessment** – The RF model recommends the use of reputable screening and assessment tools. For the purposes of these grants, sites were required to use the GAIN-I (Initial assessment) and GAIN-M90 (quarterly follow up assessment). Costs for use of the GAIN assessments can be broken down into 4 components: licensing, software, training and quality assurance (QA), and data management and reporting. While any treatment program would typically require the use of some standard assessment and a software system to maintain the data, the extensive training and QA processes, data management, and reporting services that are part of the GAIN service package are key components to using it as an evidence-based instrument. Therefore, costs of data management and training and QA are included here as RF costs.
  - **Community services** - All sites had strong ties with a diverse set of community organizations. Members of community organizations regularly attended Change Team meetings and provided youth with pro-social activities and opportunities to complete community service requirements. Some of the activities included music and art-oriented programs; working with animals; and building/construction. The cost analysis includes a representative sampling of these services in addition to formal/contracted arrangements between community organizations and the JDC programs. The challenge here is determining what portion of these services should be attributed to RF. For the purposes of this evaluation, all contracted and donated community services were designated as RF. The reasoning behind this was twofold: first, sites were being asked specifically to describe their RF programs, and second, a major goal of the RF model is to extend services *beyond treatment*, including involvement with the community; therefore, these community programs are excellent examples of enacting this component of the model.
  - **Training and technical assistance** - The Reclaiming Futures National Program Office offered a number of tools and training opportunities to facilitate the integration of RF into JDCs and assure its proper implementation at the sites. Each site was offered coaching calls, on-site technical assistance, fellowship meetings and opportunities to attend conferences. While these services were provided at no charge to the sites, there is clearly value added by the integration of the RF model.

Figure 2: Proportion of total annual costs attributable to elements of the Reclaiming Futures Model by site and overall



## G: Summary and Limitations

The cost analysis has attempted a comprehensive accounting of all resources invested in the JDC/RF programs at five sites across the United States. The analysis considered costs from two perspectives: the juvenile justice system and society. From the juvenile justice system perspective, the relevant costs are the direct costs (i.e., actual expenditures) incurred to operate a JDC/RF program. This includes all of the standard JDC program costs -- many costs that are not necessarily generated by the existence of the JDC/RF program (e.g., a judge works 40 hours a week, whether that time is spent in court for this program or not), plus any additional costs incurred to hire staff to facilitate RF goals, contract with community providers, adopt an evidence-based treatment program, etc. The societal perspective provides a broader view of program costs, as it includes the value of unpaid resources such as volunteer time and training paid for by the RF-NPO. The juvenile justice system perspective is useful for conducting budget impact analyses to track and compare expenditures under the RF model and identify ways to allocate the juvenile justice budget more efficiently. The societal perspective is useful for

understanding the return-on-investment associated with JDC/RF because it reports all of the resources invested by a community to operate a JDC/RF program, which directly impacts the outcomes that will factor into the broader economic analysis of costs and consequences across all JDC/RF programs. The societal perspective also characterizes the full range of resources and costs that a new site would need to consider when adopting a JDC/RF program in their own community.

There were several limitations with the economic analysis. It is important to reiterate that the cost analysis provides only one side of a full economic evaluation, thus results cannot be used to determine the net economic benefits or cost effectiveness of JDC/RF. Program expenditures would be offset by reductions in substance use, delinquency/criminal activity, and unnecessary health services utilization, as well as improvements in school and employment outcomes. Second, defining the incremental costs of RF was challenging, and some costs could not be estimated based on current data (e.g., additional treatment costs resulting from the adoption of an evidence based treatment). In addition, we were unable to capture the full range of community services in which JDC/RF participants engaged. The cost analysis includes what was considered to be a representative sample of a few community services from each site that were used regularly by JDC/RF participants during the chosen year for the analysis.

Additional concerns include the challenges of comparing sites with different structures. For example, some sites had multiple treatment tracks for participants, whereas others had one treatment track. Partially due to this, along with other factors, not all sites were able to provide financial data at the same level of detail. Some costs could not be provided directly, and had to be estimated based on self-report from the GAIN and existing cost estimates for services. Similarly, we could not track costs of services received at the individual participant level. While this does not alter the goals of this particular report (which provides aggregate estimates for the average participant at each site and across sites), this will need to be controlled for in future planned analyses comparing the costs of administering the JDC/RF program to the economic benefits from reductions in crime, substance use, and emotional, vocational, and family problems.