

Introduction and Purpose

The Office of State Systems (OSS) of the Administration for Children and Families (ACF) has a continuing interest in helping States to improve the quality and usefulness of the plans and studies that support their development of public benefit information systems. To this end, OSS has published the *Feasibility, Alternatives, and Cost/Benefit Analysis Guide* and the *Companion Guide: Cost/Benefit Analysis Illustrated* (for generic public benefit systems); has sponsored State systems planning working groups; has developed a set of model spreadsheet templates for cost/benefit analysis; and has prepared cost/benefit training materials.

To augment these efforts, and especially to respond to requests from State personnel, OSS has developed this *Companion Guide 2: Cost/Benefit Analysis Illustrated for Child Welfare Systems*. This optional guidance responds to the States' requests for more program-specific guidance and provides (as does the original Companion Guide):

- Examples of sound cost/benefit studies,
- Clarification (by example) of what is required by law and regulation to be submitted to ACF, and
- Examples on reporting actuals against a baseline.

This *Companion Guide 2* is, in a sense, three documents in one.

Chapter 1: Introduction and Purpose. This introductory chapter provides general information to supplement the information presented in the *Feasibility, Alternatives, and Cost/Benefit Analysis Guide* and the *Companion Guide: Cost/Benefit Analysis Illustrated*.

Chapter 2: APD Documentation. This chapter provides an *example* of the part of the Implementation APD which addresses cost/benefit analysis. This example illustrates the summary or key information that ACF considers important. Among the most important factors are:

- Detailed descriptions of benefits, and
- Clear establishment of a baseline for later cost/benefit measurement and reporting.

This section in no way implies a standard, approach, or format that States must use. It does illustrate a sufficient level of detail for ACF's purposes since this section (and the other chapters) underwent review in ACF's program offices.

Chapter 3: APDU Documentation. This chapter is an *example* of a cost/benefit measurement report. It is written as though reporting in the second year of the project described in Chapter 2. This clarifies the relationship between the planning stage studies and the post-implementation measurement and reporting phase.

This *Companion Guide 2* is a supplement, not a replacement, for the prior guides. The *Feasibility, Alternatives, and Cost/Benefit Analysis Guide* remains the definitive ACF reference on the subject of cost/benefit analysis to support State public benefit information systems advanced planning. The *Companion Guide: Cost/Benefit Analysis Illustrated*, which provides a generic example of a cost/benefit analysis, also addresses material not duplicated in this guide, such as definition and clarification of terms, the importance of consistency, use of more sophisticated techniques, level of effort, compilation of data, development of benefits in general, and sensitivity analysis. The *Companion Guide* also illustrates the difference between State cost/benefit documentation and that submitted to ACF.

Child Welfare Benefits in Perspective

Congress requires by law that the Federal government and States together support children and families in need. Government, therefore, assumes the obligation of financial and program support for those in need. Unfortunately, those needs have risen due to factors such as the economic recession, teen pregnancy, substance abuse, and the AIDS epidemic.

Some benefits typically used in cost/benefit analyses are simply not reasonable for child welfare systems. What if an effort were made to *reduce costs* by trying to keep children out of foster care and in homes? What if an effort were made to *reduce casework* by decreasing the time spent with those in need? What if an effort were made to *reduce cases* by failing to identify or keeping children or families out of

support? The unfortunate result of all these "benefits" would be an increase in injuries to or deaths of children — incidences our society considers intolerable.

So the benefits that an effective, economical, and efficient child welfare system would deliver might be a system that:

- *Controls costs* by supporting children in their homes, where possible — and where not, by placing them as soon as possible in permanent care,
- *Reduces administrative casework*, allowing caseworkers more time for contact with clients, analysis, and decision-making, and
- *Reduces cases in the long-term by identifying solutions that work.*

Congress and the Department recognized in law and regulation that improvement is needed. The Department suggested that comprehensive child welfare information systems will provide the "data needed by policy makers and, more importantly . . . the tools [needed] to assist caseworkers and managers in making decisions and providing comprehensive support to families in need." In summary, the Department added that these information systems "will result in more efficient and effective practices in administering child welfare programs which in turn will ultimately result in improved service delivery." *The emphasis is not solely on cost reduction but on program improvement.*

This concept is critical: Cost/benefit analysis must prove that the projected benefits are sufficient to warrant the expenditure for the system project. This implies that the justification will be based on *measurable benefits* and that the *outlay for those benefits is reasonable*. It is a two-step process that answers two questions:

- What am I buying in terms of outcomes?¹
- Is the cost of achieving those outcomes reasonable?

The most common and straightforward approach to justifying an acquisition is to project that the dollar value of the benefits for the proposed acquisition will exceed

¹ Note that the answer is not simply "a computer system;" it is what the system will achieve.

the costs. In other words, the system will breakeven. Such justifications can normally be approved at face value, so long as the stated benefits and costs appear reasonable.

What if, however, projected benefits do not exceed costs? This situation is much more difficult to justify and approve, at both the Federal and State levels.

When a system will breakeven, the measurable, dollar-quantified benefits are projected to exceed the costs. This is an easy approval. However, if the system will not breakeven, *a State must prove that the measurable outcomes are worth the cost of investment — and that those costs are reasonable.* The onus is on the States.

Even though the standard of review is the same — cost/benefit analysis must prove that the projected benefits are sufficient to warrant the expenditure for the system project — the justification and the decision are much more difficult.

Consider, for example, the following hypothetical situation. A State submits an Implementation APD that will not breakeven, will cost nine million dollars, projects no significant offsetting dollar-quantified benefits, will support a foster care population of 200, and will achieve (as its most significant outcome) report processing in two days rather than five days. Clearly, this submission fails on two counts. Its measurable outcome is not meaningful and its costs are not reasonable.

In contrast, consider the following hypothetical situation. A State submits an Implementation APD that:

- Meets, but does not exceed, mandatory Federal requirements for child welfare systems,
- Will not breakeven but will recover ninety percent of costs through measurable benefits,
- Will cost one million dollars (\$100,000 in unrecovered costs),
- Is established as the State's least costly alternative,
- Will reduce time to intervention from five days to one day, and

- Based on prior year statistics, will reduce the incidences of death or injury to children during the elapsed time from notice to intervention by 200 cases.

In this case, \$100,000 buys a system that meets Federal mandates at the lowest cost and prevents the death or injury of 200 children annually. Does this submission clearly indicate what is being bought and does it meet the requirements of meaningful, reasonable, and measurable outcomes? Yes.

What if projected benefits will not exceed costs? It is clearly preferable that systems be justified as cost effective. However, ACF will not automatically disapprove Implementation APDs with cost/benefit analyses that fail to breakeven. ACF will consider other justifications, especially for these types of systems in which child welfare program improvements are both clear and well supported in the State's analysis.

The onus is on the States to present a compelling case that establishes that the cost of the investment is worth the project outcomes. In addition, because States must report actual benefits, the onus is also on States to implement systems that achieve the projected outcomes.

Developing Benefits, in General

Cost/benefit analysis in the private sector is normally concerned with determining whether expenditures will result in increased income. The effect on the bottom line is the primary concern. What net profit will result?

Only a handful of federal programs can conduct cost/benefit analyses as "profit" decisions — notably, the IRS and the Child Support Enforcement Program. These organizations generate collections (income) that offset (in a sense) the costs of the government's programs to collect or provide welfare support. In these systems, improved and integrated information systems can increase collections, resulting in a net gain for the government.

However, most public sector cost/benefit analysis is concerned with net program effect. The government does not charge for its services: public services or benefits are required by law to be provided. So the government's obligation is not to maximize profit, but to make cost-effective expenditures and to deliver maximum benefits within the budget.

Therefore, most public sector cost/benefit analysis does not seek to increase program funds — but *to change the distribution of costs enough to support system development within the overall budgetary limitations of the organization. By this means, public agencies prove projects to be cost-effective.*

ACF views cost/benefit analysis as serving four fundamental and equally important needs — to:

- Evaluate alternative mixes of financial, human, and information resources,
- Support wise economic decisions on proposed information system investments,
- Establish a performance baseline against which to measure the success of the systems project, and
- Provide fundamental management tools to maximize benefits and minimize costs.

Therefore, cost/benefit analysis is a process of developing economic and performance indicators that serve as important tools in management decision-making. These economic indicators reflect how the distribution of costs change — so that the net effect on the program can be evaluated. The questions are:

- Can enough be "saved" in other categories to "pay for" the costs of developing the new system, and
- Will the system project result in measurable improvements over current operations?

Public sector cost/benefit analysis is not an accounting process. When benefits equal costs, the analysis has not proven the system will cost nothing. It has proven that the organization will remain within the overall, projected program budget — and that the projected benefits are sufficient to warrant the expenditure for the system project.

Using a Structured Approach to Identify Benefits: Several Examples

When first faced with the task of identifying benefits, many are overwhelmed. It may seem impossible to identify and quantify the millions of dollars of benefits needed to offset the costs of developing and acquiring a new information system. What is needed is a structured approach or a framework within which to analyze the effect of the systems project.

The *Feasibility, Alternatives, and Cost/Benefit Analysis Guide* provides a number of examples of quantitative and qualitative benefits, categorized as cost/resource, functional/programmatic, technical (system), legislative, and socio-political. (See page 1-8 in this Guide.) This is one framework an analyst might use. Following such an approach, States have developed benefits for child welfare systems, such as, to:

- Increase amount of child support collected (to offset child welfare program costs),
- Reduce provider payment errors,
- Reduce AFDC overpayments to families with children in foster care,
- Replace current payment system,
- Reduce pre-printed forms costs,
- Eliminate existing county-based management systems,
- Eliminate data center costs, and
- Increase staff retention (and reduce staff training).

Another framework was discussed at the July 1995 SACWIS Conference. That framework focused primarily on program and system benefits, such as might result from the development of a child welfare system. Specifically, the analytical approach suggested was to examine the benefits of a proposed information system from the perspective of five functional program areas:

- Intake and assessment,
- Family services,
- Custody cases,
- Resource development and management, and

- Management and administration.

Intake and assessment describe the process of evaluating each report of a child in need of care to determine whether the situation represents an emergency, to assess the degree of potential risk to the child, and to establish appropriate agency responses.

Family services are provided to families that are at risk of losing children to state custody, but that currently do not have children in custody.

EXAMPLES OF BENEFITS BY TYPE

QUANTITATIVE		
Category	√	Description
COST / RESOURCE <ul style="list-style-type: none"> • Reduced Costs • Controlled Costs • Reduced Staffing • Improved Staffing Utilization • Increased Productivity • Fewer Manual Functions • Increased Resources • Other 	✓	
FUNCTIONAL/PROGRAMMATIC <ul style="list-style-type: none"> • Reduced Error Rate • Increased Caseload Capacity • Increased Collections • Improved Management Information • Improved Controls • Interface / Matching • Less Data Redundancy • Other 	✓	
TECHNICAL <ul style="list-style-type: none"> • Faster Record Retrieval • More Timely Reporting • Less Processing Time • Improved Access • Improved Security • Increased Automation • Other 	✓	
QUALITATIVE		
Category	√	Description
LEGISLATIVE/SOCIO-POLITICAL <ul style="list-style-type: none"> • Integrated Benefits Automation • Improved Public Assistance • Increased Worker Satisfaction • Other 	✓	
FUNCTIONAL/PROGRAMMATIC <ul style="list-style-type: none"> • Improved Management Information • Improved Controls • Interface / Matching • Other 	✓	
TECHNICAL <ul style="list-style-type: none"> • More Timely Reporting • Expanded Capability / Flexibility • Improved Access • Improved Security • Increased Automation • Other 	✓	

Custody cases refer to families that have at least one child in custody (as a child in need of care, a juvenile offender, or both). Custody generally refers to foster homes, group homes, or institutions.

Resource development and management encompass the activities necessary to establish and maintain relationships with providers of the facilities and services that the child welfare agency utilizes in the performance of its mission.

Management and administration include the general functions of office administration, communications with internal and external organizations, and reporting.

Using this framework, the analyst would assess these functional areas, their domains (affected populations), and the effects or outcomes of the project.

Examples of effects or outcomes (benefits) identified using such a programmatic framework are shown in the table on page I-10 and described below:

- *Improved client services*, through the provision of rapid (electronic) access to comprehensive and up-to-date information.
- *Improved staff utilization*, by reducing or eliminating redundant and labor-intensive processes.
- *Reduced costs*, for duplication, mailing, and file storage space.
- *Fewer manual functions*, specifically related to tracking review dates, court dates, and legislatively-mandated schedules or timeframes.
- *Less data redundancy*, by eliminating duplicate data entry, and by features to automate completion of key sections of forms and documents.
- *Less processing time*, by automatic generation of basic assessment information and automation of comprehensive records-searching.
- *Improved access to information*, such as by electronic data transfer or electronic mail.

- *Increased automation* of administrative functions, such as payment processing for services.

EXAMPLES OF OUTCOMES OR BENEFITS BY PROGRAM FUNCTION

	Intake and Assessment	Family Services	Custody Cases	Resource Development and Management	Management and Administration
Improved client services	✓	✓	✓	✓	
Improved staff utilization	✓	✓	✓		
Reduced costs	✓	✓	✓		
Fewer manual functions	✓	✓	✓		
Less data redundancy	✓	✓	✓		
Less processing time	✓	✓	✓		
Improved access	✓	✓	✓	✓	✓
Increased automation	✓	✓	✓	✓	✓
Fiscal improvements			✓	✓	
Increased resources				✓	
Improved management information					✓

- *Fiscal improvements*, such as lower error rates and increased collections of overpayments.
- *Increased and better-used resources*, by electronic access to current information on placement and service providers, improved matching of resources to needs, and better information for planning.
- *Improved management information* through automation, particularly in areas of budget planning, management reporting, and workload scheduling.

By considering the effects or outcomes of the project, benefits can be identified, both quantitative and qualitative.

For example, an analyst might consider the effect of the system on the intake and assessment function, concluding that electronic access to comprehensive and current information would result in *improved client services*. (The domain is the client population and the effect is improved services.) The benefit to be derived from this effect or outcome of the system project is a saving in staff time that could be used to reduce current staffing levels or be reinvested into direct services to children and families. Depending on the ultimate result, the benefit would be quantified based on the reduction in staff salary or the value of reinvesting the hours into direct services.

Notice that the analysis requires a number of steps within the framework:

1. Identify functional areas.
2. Analyze effects or outcomes of the system project on functional areas.
3. Analyze effects or outcomes of the system project on affected populations.
4. Determine the benefit of the effects or outcomes.
5. Decide whether the benefit is qualitative or quantitative (by dollars or other measures).
6. Decide how to value or measure the benefit.

Using this analytical framework, a State analyst might identify anticipated benefits (such as those on the following page) for further evaluation.

**EXAMPLES OF BENEFITS DEVELOPED BY ASSESSING
EFFECT
OF SYSTEM ON FUNCTIONAL AREAS**

<p>Intake and assessment</p>	<ul style="list-style-type: none"> • More intensive and focused assessment and intervention for high-risk families. • Increased preventive efforts for lower-risk families. • Faster response to new case reports.
<p>Family services</p>	<ul style="list-style-type: none"> • Improved case planning. • Expanded client contacts and provision of services. • Expanded contacts with service providers.
<p>Custody cases</p>	<ul style="list-style-type: none"> • Expanded client contacts and provision of placement services. • Improved communications with placement providers. • Expanded contacts with children in group homes and youth centers. • Expanded discharge planning, after-care and follow-up with former clients. • Expanded planning for children with long-term needs. • Expanded efforts to facilitate visitations. • Faster response in preparation of adoption information.
<p>Resource development and management</p>	<ul style="list-style-type: none"> • Expanded support for service and placement providers. • Increased recruitment.
<p>Management and administration</p>	<ul style="list-style-type: none"> • Expanded support and oversight for social workers and support staff. • Improved information to support quality control efforts. • Expanded communication with outside organizations.

Although the initial list developed by the analyst might be quite lengthy, the State would select only the most critical, in terms of program or dollar impact, to develop in the cost/benefit analysis.

Although the framework for analysis is less important than the results of the analysis, one other is worth describing: the analysis could be framed around "outcome domains" such as safety, permanency, and child and family well-being.² Using this framework,

² These broad "outcome domains" were proposed as the foundation of the guide, *Child and Family Services Review: State Self-Assessment* (currently in draft). See Appendix A.

EXAMPLES OF BENEFITS BY OUTCOME DOMAINS

Outcome Domain	Benefit
Safety	Reduce response time for initiating the investigation of child abuse/neglect (CA/N) reports.
	Reduce interval from CA/N report to intervention.
Permanency	Consolidate databases to increase adoption rate across and among States.
	Reduce the average interval until adoption for eligible children.
Child and Family Well-Being	Improve the retention rate for foster homes.
	Increase the pool of foster care homes.
	Increase the pool of special care (therapeutic) homes.
	Increase the percentage of families receiving family preservation / support services.
	Provide family preservation / support services statewide.
	Reduce new out-of-home placements.
	Shift placements from group homes to foster homes.
	Decrease average length of stay in out-of-home care.
Other	Increase amount of child support collected.
	Reduce provider payment errors.
	Reduce AFDC overpayments.
	Replace current payment system.
	Reduce pre-printed forms costs.
	Eliminate current county-based systems.
	Eliminate data center costs.
	Increase staff retention.
Increase provider retention rate.	

That Guide also makes clear that qualitative benefits can have cost implications, but may be difficult or impossible to quantify. Examples might include enhanced compatibility between State benefits systems, improved public assistance, improved management information, and improved security.

Quantitative benefits, however, are at the heart of the cost/benefit analysis. *Quantitative benefits may be quantified on the basis of dollars or by other measures, such as time, percentages, number of foster homes, caseloads, service delivery, placements, adoption rates, and so forth.*

Although dollar-quantified benefits are the most typical and are essential to cost/benefit analysis, benefits quantified by other measures can be extremely important, especially to programs such as child welfare. Consider, for example, the two benefits listed under safety in the table on the preceding page: reductions in response time from notice to action after receiving a child abuse or neglect report. This benefit can be easily quantified and measured *by time*. The State should know its current performance and could set a goal for improvement under the new system. This benefit can *not* be easily quantified and measured *by dollars*. How can the cost of injury or death to a child be measured? There may be a long-term loss to society, but one less child could mean less expense to the child welfare system. Should States even try to place a value on a child's life? No.

As indicated previously, Congress and the Department place an emphasis, not on cost reduction in child welfare programs, but on program improvement. In addition, current ACF policy requires developing benefits that accrue to the Federal government, not society as a whole.

Furthermore, the importance of the cost/benefit analysis is not only to prove that a course of action is cost-beneficial, but also to establish a baseline for performance measurement. What could be more important than measures linked to the safety of children? Accordingly, ACF recommends that States develop cost/benefit analyses that include both qualitative and quantitative measures — and that quantitative measures *not* be limited to those valued in dollars.

Applying Values or Measures to Benefits

Once benefits have been identified, the State faces the difficult task of assigning values or measures to the benefits. Perhaps the easiest way to determine where

savings or improvements can be achieved is to take a close look at the budget and management reports — and to visit the accounting department.

Generally speaking, benefits may be derived from both the systems or program area.³ Examples of systems-related quantitative benefits include future cost savings by avoiding such expenses as scheduled equipment upgrades, charge-back expenses for central data processing staffs, contractor support fees, and telecommunications fees. Examples of benefits derived from more current technology might be avoidance of courier fees, long distance tolls, postage, printing and large square-footage fees for housing systems and staff. Examples⁴ follow.

Reductions in system-related building overhead. Even though computer systems have expanded in capabilities and price/performance, their environmental (overhead) requirements have decreased. For example, processor and storage capacity that recently required thousands of square feet of reinforced, raised floor, water cooling, and special air-conditioning can now be located in a much smaller area, in a normal office environment.

The savings in lease costs, utilities, and special environmental systems are quantifiable. The current annual costs for building and utilities overhead should be available from the operations support or budget staff. Using this and information available from the marketplace (for space and energy costs for new technology), the power and environmental expenses can be compared.

Reductions in telephone, postage, and printing costs. If the new system will reduce the number of telephone calls made or the number of letters, memoranda, or other documents printed and mailed by caseworkers, then a dollar value for this benefit can be developed. The dollar value can be estimated by assessing the effects of automation in other offices, then projecting a percentage reduction in current costs for these services.

For example, a program is currently paying \$1,000,000 per year for telephone, printing, postage, and delivery costs. The agency has information from a pilot study and from contact with a recently automated office that access to

³ See the *Companion Guide*, Chapter 1, page I-9 for further information on developing benefits.

⁴ The figures in these examples are fictional and should not be cited in States' cost/benefit analyses.

electronic communication will reduce communication costs 15% in the first year and 25% per year after that as the system is implemented statewide. A five-year benefit of \$1,150,000 is projected. This benefit can be monitored through implementation by reporting the actual expenditures in these categories.

Even more significant than system benefits are benefits derived from program-related productivity improvements, because large staffs and expenditures are involved. However, a common approach is to claim the productivity improvement as a direct cost savings. It is not, unless staffing will be reduced an equivalent percentage. If staffing is not reduced, analysts need to determine the secondary effect. How will staff use the time saved by automation? Can a value be placed on the results of their new efforts?

In Chapter 2, productivity improvements are the basis for redirecting the efforts of staff from administrative duties to prevention services. The secondary effect is a realization of program benefits resulting from shifts in placement and duration of placement.

Other program-related examples⁵ follow.

Reduced staff turnover. Frequently, high rates of staff turnover are directly related to causes such as obsolete equipment, limited technological support, and excessive administrative overhead — causes the project may be designed to eliminate. The human resources office should have information regarding historic levels of support staff turnover, and may have conducted exit interviews to identify the reasons that staff have left. There may be evidence to suggest that more effective technological resources will reduce this turnover.

If this is the case, the human resources office and program management should be able to provide reasonable estimates of the cost of replacing an employee. The costs would be derived from the expenses of recruiting, management time dedicated to interviewing and reference checking, training, and lost productivity. The total of these costs, for the percent of staff who left for reasons related to the obsolete system, is reasonably a benefit of a new support

⁵ The figures in these examples are fictional and should not be cited in States' cost/benefit analyses.

system. Staff turnover can be monitored during implementation and operation of the new system, to determine the actual value of this projected benefit.

Improved ability to respond to program (legislative) changes. Child welfare programs tend to be highly dynamic, as evidenced by welfare reform programs currently planned or underway at the State and Federal level. Changes in procedure, forms, or reporting may be mandated at short notice by legislative changes or executive order. The costs of making such changes can be substantial; they typically involve system staff to modify or enhance the system, as well as program staff to implement the changes. Significant changes may require extensive retraining and may involve the production of new forms and instructions.

The historic costs of accommodating such changes should be available (or estimable) as hours of effort by various staff categories. Hours can be turned into dollar costs by applying average loaded hourly rates. Note that in order to project a benefit in this area, it will be necessary to show that specific features of the design and implementation of the new system will result in improved flexibility or ability to respond to necessary changes or enhancements.

The examples used in Chapter 2 of this guide are specific to the child welfare program. Other examples of child welfare program benefits were cited in this chapter. In addition, the *Companion Guide: Cost/Benefit Analysis Illustrated* cites other generic types of program and system benefits. States should view these examples of benefits as representative, not comprehensive. States should also keep in mind that the studies cited in the examples in this guide are fictional.

In Summary

Several key points were made in this chapter. When developing cost\benefit analyses for child welfare systems, States should:

- Emphasize not only cost reductions, but also program improvements;
- Develop values or measures for program improvements wherever possible;

- Identify a broad list of potential benefits, but develop values or measures for only the most critical, in terms of program or dollar impact;
- Evaluate how time savings will be reinvested to benefit the program;
- Develop both qualitative and quantitative benefits;
- Use dollar and other quantitative measures for benefits to establish the performance baseline and goals; and
- Justify acquisitions on the basis of dollar-quantifiable benefits where possible.

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