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Cost is one of the most useful, and at the same time one of the trickiest, notions with which the financial manager in human services has traditionally had to contend. Its usefulness arises out of the manner in which "unit cost" has come to take a place in the nonprofit universe roughly comparable to "price" in the market/for profit arena. Its trickiness arises ultimately out of hundreds of years of commercial usage of the concept of cost in determination of "bottom line" profits. With the advent of managed care, all social workers - not just those who are administrators - must now contend with some of the arcane and esoteric ideas associated with cost. Therefore, this entry is presented as a means of helping social work administrators and other social workers who may be struggling to understand cost concepts in managed care and other contexts. The concept of cost is simple to define, at least in a general way: The cost of an activity, or program, or service (or literally anything) consists of what must be given up in order to obtain it. The actual determination of costs in a particular situation, however, leads to a number of critically important complexities.

This brief introduction will be concerned primarily with presenting some of these complexities, along with some of the important terms found commonly in discussions of the cost of personal care and other human services. Human services are well along in a "cost revolution" which has come about since the 1960's, largely through the influence of two important cost concepts. The idea of **unit cost** has gradually come into widespread use by public and other funding authorities, as a summary measure of service performance stated in terms of the volume of resource use. In roughly the same time period, the idea of associating costs, a financial measure, with **benefits**, as a measure of **effectiveness** has also gained a strong following. In both instances, serious methodological and computational problems still remain in the meaningful and consistent application of these ideas to the human service context. Despite these remaining problems, the gradual transformation of human service to a fully "accountable/cost-conscious" activity continues unabated.

All of the concepts discussed in this chapter have been used in the business arena for decades, and are presently more completely developed in the health care and education arenas than in human services. It is only in recent years that they have begun to enter into widespread, general usage in the evaluation of human services. In all cases, the measure of the market prevails here: Wide adoption and general usage, and not the isolated proclamations of academic or professional writers, are the true tests of the

importance of concepts such as these.

Cost Elaborated

Perhaps the most intuitive conception of costs for the typical human service administrator or *managed care provider* is the concept of **outlay costs**, usually indicated by an expenditure or an obligation. Thus, photocopies which one purchases from a local copy center for $.10 each "cost a dime" whether they are paid for immediately or charged and paid for later. This basic idea is simple and intuitive and part of everyday language.

However, there are several difficulties with the seemingly straight-forward notion of assessing costs by outlay: First and most importantly, there is the problem of equating the cost of an object with the price paid for it. Generally, this leaves out of consideration relevant but unmeasured costs of purchasing, transporting, storing or using the item. If it takes you an hour to walk to the copy center and back, for example, the **real cost** of those copies is actually much greater than a dime, since you have also used up an hour of your time in the process. If the hour you spent walking to and from the copy center was “your own” (that is, unpaid leisure time), its cost may not be a consideration. However, if it was work time (during paid employment), its cost is a relevant overall expense of the employing organization, whether or not it is tracked or monitored.

Then, there are also the problems associated with accruals of various types. All of the elements contributing to a particular cost measurement may not be paid for or expenses reported in the same period as their actual use. If *that is* so, when did the cost actually occur? If you buy something on credit on the last day of the old fiscal year, and you pay for it a month later (say, on the first day of the second month of the new fiscal year), when did the cost actually occur? In the old fiscal year? In the first month of the new fiscal year? Or in the second month of the new fiscal year?

In most instances, there are no *general* answers to such questions. We can rely only on certain conventions and our own ad hoc assumptions, which must be spelled out in order to make any **cost analysis** meaningful. **Consistency** of measurements thus becomes a major issue in establishing the **comparability** of different cost measurements.

In human services, there is the additional problem that many actual costs involve donated goods and services which are never "expenses" as such. Does this mean that they involve no costs? If these are left out of cost calculations, aren't costs actually understated? What if volunteers or donations suddenly disappeared and you had to purchase equivalent resources? Would this mean that the cost of your service had actually risen, or only that you were obtaining the same resources in a different way?

Opportunity Cost

Because of these and other limitations, economists seldom use outlay costs. They typically employ the more sophisticated concept of **opportunity cost**, which is generally a comparative measure in which the cost of an alternative is measured in terms of foregoing the next most likely alternative. (Thus, the cost of applying for a grant may be not being able to carry out some other activity which is almost as desirable, such as a training session.)

There are also problems with opportunity cost. First and foremost is that, because of its definition, opportunity cost is useful only with anticipated or planned actions and not to the evaluation of actual events. Opportunity cost as a concept is not applicable to measuring actual events, because it requires that one choose to second guess what might have been. Even if one overlooks this considerable obstacle, however, there are other difficulties with applying opportunity costs notions to human services, simply because of the large areas of uncertainty and large range of options growing out of almost any decision.

Thus, while there are regular calls for the use of opportunity cost in human services, practitioners have shown a marked reluctance to do so. Generally speaking, however, the most widespread applications of **cost measurement** in the human services context grow out of the outlays notion. Curiously (some might argue, perversely) the issue of outlays vs. opportunity costs seldom arises in public policy debates associated with cost containment and managing care.

Cost Measurement

All types of cost measurement assume the existence of some type of **cost center** (or "cost magnet") to which a particular series of outlays are attached for measurement purposes. There are two principal approaches to cost measurement of interest to the human service agency: **Cost accounting** is a system of capturing, recording and reporting information on activities and expenditures which generates cost data directly from the accounting system. Cost accounting is most fully developed in commercial manufacturing, where two systems of accounting, **job cost** and **process cost** systems, are most frequently found. In job costing, costs are associated with a particular job, project or discrete activity, such as organizing a particular neighborhood or implementing a program. In process costing, costs are attached to a particular process, such as intake or discharge interviews. Within human service settings, contemporary hospital accounting is probably the most advanced form of cost accounting with the **patient episode** from admission to discharge constituting a "job" type cost center. When patients receive that familiar detailed printout of all charges incurred as part of their discharge, for example, that printout is generated directly from a cost accounting data system.

Cost analysis (also known as cost study or cost finding) involves special secondary analysis of financial and case records and other relevant research techniques to recover cost information. Because of the general absence of cost accounting techniques in most of the human services, most cost data outside of hospitals is gathered through the use of cost analysis techniques. One of the implications of managed care is that that situation may have to change rapidly. However, the profession of social work has never before been called upon to deal with cost accounting/cost analysis in sophisticated ways.

More Cost Terminology

Two underlying questions are useful for organizing various cost terms and concepts: "What Type of Costs Are There?" and "Which Costs Do We Count?" Types of costs are usually identified by attaching an adjective in front of the word cost: For example, we speak of direct and indirect cost, true or full cost, contract or reimbursable cost, fixed, semi-fixed, semi-variable, step variable and variable costs. Within the manufacturing world, cost terminology arose slowly and directly out of experience, only gradually achieving its current levels of standardization through the medium of cost accounting. Movement toward a standardized vocabulary of cost in the public and nonprofit sectors has come much more quickly and largely through the efforts of the federal government's Office of Management and Budget (OMB) to impose a standardized cost vocabulary on all federal grantees and contractors. In particular, three OMB Circulars – A-21 (education); A-87 (state and local government) and A-122 (nonprofit organizations) seek to spell out a uniform set of cost principles applicable to all public and nonprofit grantees and contractors. Anyone serious about understanding the position of the U.S. government on service costs must confront these three documents and the other OMB Circulars listed in Appendix A.

In many cases, the adjectives of the cost vocabulary clearly describe the types of costs involved. For example, **joint** costs are those shared by two or more cost centers. **Budgeted** costs are projected costs for which financial consideration has already been made or planned. **Standard** costs are those which are determined by close, careful scrutiny to be typical or conventional for a particular cost element or cost center. Standard costs usually refer to the type or category, while **average** cost usually refers to a typical amount. Thus, across all social agencies in a particular community, the standard cost of office rental may be an average cost of $1,500/month.

The question of which costs to consider and which to ignore in any given case is, in part a question of distinguishing **controllable** and **uncontrollable** costs. A controllable cost is one that can be influenced or determined by a particular decision-maker. An uncontrollable cost is one which is beyond that same decision-maker's authority, responsibility or ability to influence or determine. Many types of commodities purchased from

commercial vendors, from food supplies to office supplies may be partly to fully uncontrollable costs for the human service program or managed care provider.

Which costs to consider also requires distinguishing **relevant** (or related) and **irrelevant** costs. In any situation, costs determined to be relevant will be those related to a particular decision or planned action, while irrelevant costs will be those "in the background" and unrelated to the particular decision or action. The problem of determining relevance is usually approached through applying conventions and ad hoc assumptions to a defined cost center (or apportioning costs among several cost centers). A cost center (sometimes also called a cost objective, or cost pool) may thus be thought of a conceptual device (or "container") for distilling costs by associating purposes, expenditures and other relevant value estimates. In other words, cost centers are general, abstract objects for bringing together and linking costs which are related in some way. Uniform definition, consistently applied conventions and consistent assumptions are also fundamental to the comparability of any cost measurements.

Any notion of comparability of cost measurements is squarely at odds with assumptions of case uniqueness and client individuality. If each case, each situation and each person served is truly unique, then there is apparently no basis for comparing the costs involved in doing so, because the resulting comparisons will be largely meaningless.

Comparability and individuality can, in most instances, be reconciled through applications of concepts of statistical distribution. In particular, where individual differences result in large differences in cost, the concept of **mean *or average* cost**, becomes very important. In human services, it is vitally important to recognize that any cost figure cited for a program or service is, by definition, the mean cost summarizing a distribution of individual costs both above and below the mean. Where there are wide discrepancies, it may be important to look also at other descriptive statistics such as the **mode** (the most frequently occurring*)* and **median** (half above and half below*)* of the distribution and significant **outlyers** (that is, very high cost and very low cost cases).

Direct and Indirect Costs

Carefully defined cost centers are one of the two most fundamental and useful distinctions when considering costs; the other is the distinction between **direct cost** and **indirect cost**. Quite literally, no meaningful cost analysis is possible unless clearly defined cost centers, or "units of analysis" are spelled out and all relevant direct and indirect costs are assigned to those centers. When a cost center is defined, it will nearly always have both direct and indirect costs attached to it.

According to the Office of Management and Budget, "Direct costs are those that can be identified specifically with a particular final cost objective; i.e., a particular final award, project, service, or other direct activity of an organization." (A-122, 46025) "Indirect costs are those a) incurred for a common or joint objectives, and cannot be readily identified with a particular final cost objective." (A-122, 46025) In an effort to reflect the meaning of indirect cost more clearly, the recently revised OMB Circular A-21 drops use of the term "indirect" completely and relabels such costs as "Facilities and Administration". Indirect costs (or F&A, as they are already becoming known) can be thought of, then, in a certain sense as temporary calculations or determinations which exist only to be assigned to more final or permanent direct cost centers. Making those assignments is one of the key steps in any cost analysis.

The direct/indirect distinction commonly arises, for example, in an agency with two or more programs funded separately and a central management, even if the "management" consists exclusively of a single secretary shared by the programs. In writing the grants for these separate programs, the question of how much of that secretary's time to include in the budget of each grant (that is, allocate to each separate cost center) becomes important. For the managed care provider, a central cost issue may be the proper assignment of indirect costs, such as continued training which may be of benefit to several clients but not clearly assignable to any one client.

In the past, definition of cost centers in human services has been largely an ad hoc, and consequently highly variable, process. However, in light of the development of accounting standards for nonprofit organizations, and the federal definition of cost principles referred in the OMB Circulars, cost analysis of virtually any nonprofit program or service should begin with at least three such centers: **program costs** (direct), **administrative costs** and **fund raising costs** (both indirect).

Distribution of Indirect Costs

In a somewhat dated reference, OMB Circular A-122 says that using these three cost centers in what it terms "the direct distribution method" (discussed below) is compatible with the *Standards of Accounting and Financial Reporting for Voluntary Health and Welfare Organizations* issued jointly by the National Health Council, Inc., the National Assembly of Voluntary Health and Welfare Organizations and the United Way of America (referred to below as the coalition standards). These voluntary standards were subsequently updated by the American Institute of Certified Public Accountants (AICPA) and National Accounting Standards Board (NASB) standards (referred to below as "generally accepted principles of accounting") beginning in the mid-1970's, even though OMB apparently continues not to recognize them. (A-122, 46026)

The Simplified Allocation Method

"Where a nonprofit organization has only one major function, or where all of its major functions benefit from its indirect costs to approximately the same degree, the allocation of indirect costs and the computation of an indirect cost rate may be accomplished through simplified allocation procedures" described in the following paragraph. (A-122, 46025)

The simplified method itself involves "(i) separating the organization's total costs for the base period as either direct or indirect, and (ii) dividing the total allowable indirect costs (net of applicable credits) by an equitable distribution base. The result of this process is an indirect cost rate which is used to distribute indirect costs to individual awards." (A-122, 46025) Although this may sound complex, it really is quite simple: Center City Services, for example, may apply step (i) and determine that it has $75,000 in direct costs and $25,000 in indirect costs. Applying step (ii) results in determination of an indirect cost rate of 75/25 or .333. In subsequent actions, this 1/3 ratio may be used to project, for example, that an additional project with $150,000 in direct costs should be expected to have $50,000 in indirect costs.

Multiple Allocation Base Method

Reality is seldom so simple, however. Thus, for example, an agency may rent offices, operate vehicles and rent post office boxes or have other indirect costs which benefit its programs to different degrees. (One program, for example, monopolizes the staff car and the others almost never use it. Or, two programs get lots of mail and the others very little at all.)

By OMB definition, the Multiple Allocation Base Method is a procedure for allocating indirect costs where such discernible inequities exist. "Where an organization's indirect costs benefit its major functions in varying degrees, such costs shall be accumulated into separate cost groupings. Each grouping shall then be allocated individually to benefiting functions by means of a base which best measures the relative benefits." (A-122, 46025) Thus, using separate calculations like those of the simplified method, one may determine by the Multiple Allocation Base Method that one program should pay 50 percent of the office rent, but only 30 percent of the staff car expenses and 90 percent of the post office box rental.

Direct Allocation Method

Finally, OMB Circular A-122 also allows use of what it terms the direct allocation method whereby costs may be allocated to "program" and "general management" categories (e.g., F&A or management and fund raising) as allowed by the coalition standards and generally accepted principles of accounting, in effect using the multiple base allocation method in a slightly different way.

For those nonprofit organizations which "treat all costs as direct costs except general management and general expenses" the direct allocation method is acceptable provided each joint cost is prorated using a base which accurately measures the benefits provided to each award or other activity." (A-122, 46026)

Commentary

The simplified allocation method is what cost accountants term a direct distribution method. The principal weakness of direct distribution, however, is that it ignores the cost implications of activity between indirect cost centers (e.g., the support provided to fund-raising by general management, etc.), and as a result in many cases it may tend to distort the outcome. Generally, the greater the volume of such "unmeasured" activity, the larger the error resulting from this method.

Although not mentioned in OMB Circular A-122, both the Multiple Allocation Base Method and the Direct Allocation method may require that the agency involved give some thought to the implications of the order in which calculations are made. (The indirect cost of general management will vary, for example, before and after the indirect support provided to general management by specific program managers is factored in. This, in turn, will raise or lower indirect cost calculations for each of those programs, and so on and so on. Because of this, it is frequently necessary to give some consideration to **"step-down" methods**, in which indirect cost centers are "closed out" (that is, computed) in a particular sequence, with costs assigned both to other (open) indirect cost centers and to direct cost centers, as appropriate. Because of the general lack of agreed upon step down procedures in human services, some consistency in the actual procedures used would seem to be the most important consideration; in order to assure maximum comparability of cost figures over time.

In the worst case scenario, the order of calculation or closing can actually result in a failure to produce unique solutions, since the order in which indirect cost centers are closed out affects the outcome. As such, it is most useful in cases where rules or procedures are established specifying the order of close-outs, at least in those cases where indirect costs are large enough to materially affect the resulting final cost figures. (Variances of hundreds or thousands of a cent are not, ordinarily worth considering - or even determining - in nonprofit human service settings.)

Full Costs

When all of the direct and indirect costs associated with a cost center or cost objective have been assigned, and other necessary adjustments made, we may call the resulting measurements **full, total** or **true cost**. Full or true

cost, in this sense, is our best estimate or measurement of all relevant costs associated with a cost center, based on the conventions and assumptions of the cost assessment model employed. OMB Circular A-122 defines total cost as "the sum of all allowable direct and allocable indirect costs less any applicable credits." (A-122, 46024)

While determination of full costs is important in some contexts, we may not always need to make this particular measurement. Cost analysis always occurs in a particular **context** and for a particular **reason**, and recognizing context and reason is an essential step in the process of interpreting cost measurements. From this vantage point, we find at least two important general approaches which in turn serve to distinguish full or true costs from **contract costs**, discussed in the next section.

In many cases, we are genuinely interested in knowing the "true" or "full" costs associated with a center: Is your budget sufficient to cover all the costs of your program? Does your funding source provide resources consistent with the program they expect or demand?

If one's interest is in determining the true or full cost of an activity, program (or any other cost center) then the way in which your cost model allocates indirect cost becomes an issue of **fidelity**. That is, the pattern of direct and indirect costs should accurately reflect or model the actual activities involved. Thus, if the secretary works 4 days a week for one program and one day a week for another, assigning 80 percent of her "costs" (salary, fringe benefits, etc.) to the first grant and 20 percent to the second would be a reasonable thing to do.

It is important to remember that completely accurate determination of the full costs of any cost center (applying the allocation methods discussed above) can be an expensive, time-consuming and often frustrating experience. Distinguishing the portions of expendable supplies like paper and pencils consumed by different staff members can be extremely difficult and time consuming, for example. Thus, as a practical matter, we are often only concerned with tolerably accurate full cost data. What is tolerable, of course varies widely by circumstances, although certain general rules, such as mathematical rules of rounding should be heeded.

As an example, the question of how to allocate secretarial costs as an administrative (indirect) cost center is usually an interesting one: This would probably involve at least salary and fringe benefits for the secretarial position. It might also involve equipment and supplies and other costs, to the extent these can be associated with different programs or cost centers. The greater one's desire to establish the "full" cost of a center, the more necessary it becomes to delve into such definitional issues.

An important consideration in all cases, but particularly with small, low-budget programs and services, is the important issue of the **feasibility** of

highly precise measures. In particular, when the costs of determining full costs outweigh any possible benefits that might accrue from increased accuracy, questions of feasibility should arise.

A convenient way to think of this problem is to mentally arrange all possible costs in decreasing rank order, with the largest cost items at the top of the list. One proceeds down the list, assigning costs to direct and/or indirect categories until a **point of indifference** (the point at which it no longer matters) is reached. As a general guide, cost elements of less than one-tenth of one percent of total costs ($100 of a $100,000 budget) will ordinarily have a negligible effect on the final result, and can usually be ignored unless one is extremely concerned with accuracy. (E.g., if differences of a cent or two per hour in reimbursement rates are important, then obviously greater precision is demanded than if one is interested in accuracy to the nearest 10 cents per unit.)

Contract Costs

Ordinarily, one of the important limits on considerations of full, total or true cost in the human service program or service is established by the alternative concept of **contract** or **reimbursable** cost. Contract costs (also known as "allowable" or "allocable" costs) are those which are recognized and accepted by a funding source or contractor. (Thus, in the case of federal grants and contracts, for example, the OMB definition of total costs noted above also becomes a contract cost consideration.)

Federal grants and contracts operate within an environment of explicitly defined and recognized contract costs set forth by the OMB Financial Management Standards listed in Appendix A. Federal OMB Circulars A-21, A-122 and A-87, for example, spells out a variety of distinct and different contract costs within two very general categories of "allowable" (a.k.a. "allocable") and "unallowable" principles applicable to all federal grants and contracts. OMB Circulars A-122, A-21 and A-87 each list 50 or more categories from advertising to travel in which what is allowable and allocable to federal grants and contracts is detailed.

Proposal Costs

Proposal costs are an especially appropriate way to illustrate the general differences between full cost and contract cost approaches, for they reveal a conflict between the cost standards of the federal government and the generally accepted nonprofit accounting procedures of the accounting profession and standards of the coalition only partially resolved by OMB Circular A-122. American Institute of Certified Public Accountant (AICPA) standards for health and welfare organizations distinguish three types of recognizable costs, as noted above: **Program** costs would ordinarily be

considered direct costs and both **administrative** and **fund raising** costs would be indirect (or what some organizations call "overhead").

Determination of all three categories of cost would, in a particular instance, presumably result in a determination of full cost. Yet, federal grants and contracts explicitly disallow (forbid is, perhaps, more accurate) recognition of the costs of proposal preparation as a legitimate contract cost. (That is, you cannot charge the federal government for the cost of writing federal grants.) Many funding sources for managed care providers may also disallow the costs of proposal development, training and other expenses in an effort to curtail costs or limit cost increases. In the case of nonprofit service agencies and service providers, this amounts to non-recognition of fund raising costs as a legitimate cost category where federal grant funds are involved.

Whether it would be better to resolve this conflict by amending accounting standards to acknowledge the exception in the case of public (and some private) funding or by changing DHHS rules to allow recognition of proposal development costs need not concern us here. What is of interest, however, is whether this means federally supported programs have fund raising costs. If one adopts a contract cost posture (and the viewpoint of OMB), the answer would be "No, they don't" since only administrative and program costs are typically acknowledged. If one takes an agency-based "true cost" perspective, however (which is the intent behind the AICPA approach) the answer would be "Yes, they do but they are hidden in administrative and program cost categories."

The reasons why a public funding authority might choose to hide fund raising/proposal development costs are not difficult to see, and the more extensive (and thus more costly) its mandated proposal development procedures the greater its interest in hiding those costs would presumably be. The ability of funders to hide these costs by failing to acknowledge their existence does not mean that the agency and/or provider do not experience them.

This issue would be of great practical interest when comparing administrative costs or "unit costs" of service for publicly funded and privately funded services. One should be careful to establish that fund raising costs are either included or excluded from both types before reaching any conclusions about comparable costs.

Unallowable Costs

The final category of the federal costs standards is **unallowable cost**. In some cases, only costs explicitly allowed (or disallowed) in the contract are acceptable. In the case of federal funds, there are also certain categories of costs which are uniformly disallowed in all grants and contracts. According to

OMB Circular A-122, unallowable costs include bad debts, contingency funds, reimbursements for contributions and donations, entertainment expenses, fines & penalties (including traffic tickets), governor's or legislative expenses, interest and other financial costs, and underrecovery of costs under other grant agreements. The circular also spells out conditions under which certain other allowable expenses may be unallowable. Grantees and contractors may not ever use federal funds for any of these particular items.

Fixed and Variable Costs

Yet another fundamental cost distinction of importance in human services, but not mentioned in the federal standards, is the distinction between fixed and variable costs. A **fixed cost** is one which remains constant over a budget period (usually a quarter or fiscal year) despite any fluctuations in levels of service which may occur. A **variable cost**, by contrast, is one which changes with variations in level of service. (We might note a third possibility, which are **random costs**, which fluctuate for no predictable or understandable reasons, even though there isn't much we can do with this idea in cost analysis.)

Everything discussed above, for example, implicitly assumes that costs are fixed for the period of the analysis. (Reminder: It is the average, or mean, cost which is assumed to remain constant during the budget period.)

For most human services, wages and salaries of full-time employees are a fixed cost, for example, since they tend to remain constant over an entire fiscal year (and sometimes longer). By contrast, total wages and salaries of part-time employees are a variable cost, not only because they are adjustable but more importantly, because adjustments tend to be correlated with service "output": The more hours people work, the more service that can be delivered.

Several types of cost "behaviors" (or patterns of cost fluctuation) which fall in between the limits of fixed and variable have also been identified. In general, cost measurement in human services is not sufficiently advanced at present to allow identification of most of them.

Step-variable (or semi-fixed) costs are those in which cost increases and decreases do not occur in gradual or continuous increments, but rather in discrete "steps". For example, a program which employs only full time staff members will experience step variable costs, whether or not they are recognized as such (and most small human services presently do not recognize them). Assume (for simplification purposes only) that each worker can accommodate up to 20 cases and no more, and the need/demand for the service is such that any worker will always have a full caseload. In this case, total program costs will follow a step-variable pattern, while unit costs will remain fixed (primarily as a result of our second assumption.)

Semi-variable costs, on the other hand, are those which are variable under some conditions and fixed under others. For example, virtually anytime there are quantity discounts on expenditures one can suspect that semi-variable costs may result, although many different patterns may be observed. Thus, a supplier of agency letterhead or forms, for example, whose price decreases as the quantity of orders increases is likely to create semi-variable cost patterns. Ordinarily, however, semi-variable costs are not too common in human services because the major cost elements (personnel, fringe benefits, rent, travel) do not behave in a semi-variable manner. (Or, if they do, it is not currently recognized as such.)

Regardless of the patterns of variability, the important point with variable (as opposed to randomly fluctuating) costs is that variability is associated directly with levels of service delivered. Close determination of such variability, for example, is a factor in determination of optimal staff workloads and a host of other management issues and problems.

Unit Cost Analysis

The second of the most fundamental forms of cost study after cost determination discussed above is the unit cost analysis, where full or contract costs are compared (usually in ratio form) with some non-monetary quantitative indicator of program activity. Hospital and nursing homes costs are often presented on a cost-per-bed or cost-per-bed-day basis. There is, in principle, no reason why unit cost data cannot be developed for outcome measures rather than process or activity measures. Thus, the cost of higher education can be presented as easily in terms of numbers of graduates as numbers of attendees. Doing so, however, requires establishing quantitative measures of outcomes rather than processes (analogous to college graduation as opposed to attendance). This has proven to be a major stumbling block in human services. Two highly sophisticated techniques, cost/benefit analysis and cost/effectiveness analysis have often been suggested as ways of dealing with the measurement of the cost of outcomes.

Cost/Benefit Analysis

The idea of cost/benefit analysis is one of the most misused concepts in modern human services management. The naive intuitive idea of cost/benefit analysis is a simultaneous determination of the cost and the benefits of a service or activity. This idea begs the tremendously complicated issues associated with defining and measuring benefits.

Cost/benefit analysis is also the name of a set of economic planning techniques for measuring opportunity costs and comparing them with future economic benefits, measured in discounted present dollars.

With the exception of programs in employment and training and some

health programs where it is possible to estimate precisely future effects upon earnings, health care costs, etc., cost/benefit analysis is of little practical value in human service cost measurement. Even so, the idea continues to exercise a strong hold over federal, foundation, state and other officials seeking to assure greater accountability for funds under their discretion.

Cost Effectiveness Analysis

The idea of cost/effectiveness analysis, on the other hand, has substantial unrealized possibilities in human services. One way to think of it is as unit cost analysis focused on outcome, rather than process measures. In other words, the quantitative units which serve as the denominators to full or contract cost numerators are outcomes or results rather than activities or processes.

Thus, for example, the general cost effectiveness formula for prevention programs is the full (or contract) cost of the program divided by the number of problems prevented. Infant mortality rates, for example, can be compared with total maternal and infant services costs in this way to determine the cost effectiveness of those services. (The cost per live birth improvement in the infant mortality rate.)

Only in a relatively few instances, however, is it possible to establish adequate levels of precision in observation and measurement to make cost/effectiveness measurements useful and meaningful.

Scale and Scope Economies

Two related concepts whose meaning is dependent upon the costs concepts outlined above and whose applications (and misapplications) to contemporary practice have been widespread are scale and scope economies. **Scale economies** can be said to involve variable costs which decrease in proportion to increases in output. Thus, the more you produce the lower the cost of producing a single unit. **Scope economies** are decreases in costs which result from co-production of different types of services. Scale economies are a long-recognized phenomenon, while scope economies have only been generally recognized recently.

The clearest (although not necessarily the easiest) cases of scale economies in social situations are likely to be associated with under-utilization of staff. The "unit cost" of a program in which each worker has only a single client are likely to be considerably higher, for example, than the unit costs of a comparable program in which each worker has a number of clients.

In theory, considerable economies of scale (i.e., reductions in the unit cost of services) could be achieved in such a case without affecting the quality of

services simply by bringing each worker's workload up to – without exceeding – full utilization. The difficulty is that such "open and shut" cases seldom occur in reality, and determination of the differences between "full utilization" and "overloading" of staff is no simple matter. Nonetheless, the intuitive notion of scale economies is an important one to keep in mind in conducting cost studies.

Scope economies may occur in human services in any of a number of areas. For example, while few social agencies need (or can afford) full-time legal counsel on staff, the agency with its own legal aid staff may realize considerable scope economies (e.g., in reduced legal fees) over the agency which has to hire attorneys on a case basis. Likewise, a staff family therapist may also consult with protective services staff or a staff accountant may provide backup technical assistance to a consumer counseling program *to achieve scope economies.*

Scope economies of this type are generally treated in an ad hoc manner in most contemporary agencies, and little or no knowledge exists about particular combinations of programs or skills likely to result in such economies. Nevertheless, in the contemporary cost-conscious environment the idea of scope economies appears to be a fruitful area for further work.

The U-Shaped Curve: Is Small Beautiful?

One of the strongest arguments in defense of services delivered in the small agency comes in the form of various possibilities that the cost curves of scale and scope economies in human services may generally be "u-shaped". That is, there may be a point ("of diminishing returns") beyond which increasing the number of units of output results in no further scale economies, and actually begins to push up unit costs. Beyond that point, rather paradoxically, increases in service output would produce higher unit costs rather than lower ones.

It is highly likely, for example, that the unit costs of supervision continue to diminish as additional workers are assigned to a pool of supervisors, but only until the point when the number of new workers exceeds the combined ability of existing supervisors and a new supervisor must be added, the average unit cost of supervision will increase, at least temporarily. However, when communication problems between the supervisors requires addition of a higher-level supervisor-of-supervisors, the average cost of all supervision will increase irreversibly.

Virtually every worker intuitively grasps this idea. The difficulty with applying this insight to human services, however, is that we almost never know with any precision where and when such changes in direction (called "saddle points" or "cusps") can be expected to occur. Consequently, it is extremely easy to suggest that "there should be a way" to deal with this issue, but enormously difficult to come up with one.

Problems in Calculation

Closely related to these definitional issues are problems in the actual calculation of costs. At least three highly questionable cost measurement strategies are widely employed in human services contexts today. The first of these is the concept of cost reduction as **efficiency improvement**. This is a stance commonly and widely taken by local government officials as well as a number of state and federal officials. The suggestion, in effect, is that cost cutting leads to improved efficiency. The absurdity of this view is well summed up in the absurd conclusion which results from its consistent application: If reducing costs alone increases efficiency, then not spending anything should produce the greatest efficiency. Although this is an obvious absurdity, advocates of cost-reduction approaches to efficiency (of which there are many) have yet to point out either the theoretical or the actual cut point at which this concept of efficiency ceases to govern.

One unexplored possibility is that the relation between cost and efficiency is also u-shaped, with a saddle point beyond which further cost reductions may actually produce decreases in efficiency. While many service workers and not a few administrators may be tempted to argue that they are at or near that point, the fact remains that actual measurement of "efficiency" is such a primitive and inexact art in human services that no one can say with any certainty when or if such a point is ever actually reached.

A second equally questionable application of cost concepts which has been very popular in recent years is the application of the **criterion of least cost**. Whenever several alternative ways of doing things exist, it is commonly assumed in many quarters that the least expensive one is to be desired. The general weak point in this criterion as it relates to human services is the comparability of the alternatives. (a.k.a., the **apples and oranges problem**) It is anything but self-evident that several service programs with the same label or title are actually doing the same things or providing the same services. Until such comparability is established, any cost comparisons which result should be treated as completely meaningless and programmatic decisions made on the basis of such comparisons are on a par with rolling dice or random numbers tables.

A third highly questionable application of cost concepts is the view of **cost containment** as an adequate management strategy. Certainly every administrator should be concerned about costs, and should strive to keep costs as low as possible. However, the substitution of cost containment for goal attainment is virtually guaranteed to produce long-term program disaster.

It is one thing, however, to suggest caution in the use of cost concepts. It is quite another to negate or overcome the effects of a political economy built on the (mis)application of these same concepts. The decade of the 1980's saw

the growth and maturity of just such a political economy, and we continue to live under its spell in the late 1990's. The long term effects upon the human service system have yet to be determined.

The Elusive 'Measurable Unit' of Service

Although we are not yet there, we have been gradually moving toward improved cost measurement capability in human services for many years. One area with great potential for improvements would appear to be in establishing some type of uniform outcome measures. Although we cannot yet clearly identify the exact specifications of a widely agreed-upon unit of service for any of the human services, we can begin to identify some of the main specifications which such units must meet in order to be useful in the measurement of costs. The most important of these specifications might be called the "integrity" of the cost measure. Integrity consists of five separate considerations: homogeneity, intersubjectivity, stability, established variance and generalizability.

Homogeneity means that any unit which is selected as a cost measure should be practically identical with any other service unit whose cost it is measuring. **Intrasubjectivity** refers to the likelihood that independent observers will report the same thing under the same circumstances. **Stability** in this sense is the opposite of variability. It means that each unit should remain approximately the same over a reasonable period of time as it was when it was measured and **established variance** refers to the possibility that variations in units themselves or observations over time should fall within limits which can be identified or determined. Finally, **generalizability** can only be measured when it is clearly and explicitly stated and understood, when there is some type of comparison or reference group with which to compare. Ideally, such comparability should be established across programs and agencies. Unless cost measurements can meet these criteria, the likelihood is not very great that they will prove useful at all.

Most of the services units in use for measurement purposes in human services--whether measures of "inputs", "outputs", "efficiency" or something else--fail miserably on one or more of these criteria. A '**program'**, for example, is seldom an explicitly identified or a consistent thing. A program may be a two-hour entertainment put on by an ensemble or a permanent, on-going endeavor. A '**case**' may be an individual, family or organization, involved for a single incident or episode or enduring across a lifetime. A **'client contact'** may vary from a telephone call, to a trip involving many miles and hours or even days. Likewise, terms like 'interview' and 'episode as well as many others are susceptible to the same vagaries.

The situation is not entirely bleak, however. We have made some

progress toward establishing standard program structures and definitions, even though great variations still exist and several overlapping and competing taxonomies exist.

We have also made considerable progress in the standardization of expense items (see OMB circular A-21 for a particularly detailed listing of such elements in the context of higher education grants.) We have also made progress in recognition of the functional cost categories of administrative, fund raising and program costs. The next leap forward in that area might be for federal grants and other funding sources to begin to recognize the "true costs" of fund raising as a legitimate expense, rather than the current practice of simply "burying" such expenses in general administrative expenses. One way to do this would be to disallow the use of federal funds for such purposes (it already is) but to require reporting fund raising costs as a part of the local match.

Another area of progress might be to further simplify and standardize line item budgets, relegating some of the tedious details of such documents to backup sheets. Thus, for example, a summary budget might report all expenditures by program, summarized as services (personnel costs), current expenses (everything else) and capital expenses with subcategories for administrative, program and fund-raising. The point here is not to eliminate the reporting of proposed and actual line item expenditures, but to back such detail further down the line in the budget justification.

The Day As A Measurement Unit

Time is a centrally important measurement unit (perhaps *the* central measure) in human service cost measurement. The general importance of days as measurable, cost-relevant units of the volume of service delivered in hospitals, nursing homes, and residential treatment facilities is already well established. Within the clinical arena, the traditional "therapeutic hour" is in itself a kind of tribute to cost measurement. It is typically 50 minutes of service provision with an additional 10 minutes for 'support' activities of one sort or another (coffee refills, rest room breaks, returning phone calls, etc.). As such, it is a clear reflection in professional jargon and practice of the direct and indirect cost distinction discussed above. In a similar vein, nursing homes, hospitals, day care services and residential care facilities have gone a long way toward standardizing service units based upon time.

The "day" of day care and the hospital and nursing home bed-days are widely recognized units which offer remarkably stable 'natural' cost centers. Anytime there is a tangible good which figures prominently in a service, as in the patient's bed or room in hospitals and nursing homes, and the 'meal' served by food programs (or the meal-materials provided by food banks), there is a tangible base for establishing a potentially valid and reliable cost

measure.

In other cases, mere usage or convention is sufficient to establish an indicator. For example, some years ago the national continuing education body established the CEU (Continuing Education Unit) as a standard measure of service provided. One CEU is said to equal 10 hours of instruction. That measure is now sufficiently universal to allow certain limited cost comparisons per CEU (as in licensure considerations).

Still many problems remain. There are, for example, a great many remaining unidentified sources of variability in service units. Further, the importance of consistency and variability over time is largely discounted. We might, for example, usefully be examining for period and cohort effects in many types of services. We know for example, that many people experience depression associated with holidays. Consequently, demand for service is likely to increase and effectiveness may prove more challenging during such periods.

It is important to remember that time is not the only way to measure service-related units. Martin (2001, p. 70) also identifies *material units* (for example, meals, prescriptions, food baskets, vouchers) and *episodes* (for example, visits, appointments, rides, sessions). Martin also distinguishes between two different types of quality performance measures: outputs that meet a stated quality standard and client satisfaction (Martin, 2001, p. 71).

Kettner and Martin (1996) reviewed the literature and concluded that performance measures should be evaluated in terms of five criteria. One of these was labeled *costing*, or ease of cost reporting. The other four are *utility* or usefulness, *precision* or specificity, *feasibility* or ease of collection, and *consensus*, or level of agreement among stakeholders. Martin also noted that "any performance measure that cannot be costed out (cost per output, cost per quality output, cost per outcome) will not meet [the Government Accounting Standards Board's service efforts and accomplishments] reporting; thus, its utility is low" (Martin, 2001, p. 73).

As Martin (2001, pp. 67–69) noted, the Government Performance and Results Act (GPRA) and the Service Efforts and Accomplishments (SEA) initiative of the Government Accounting Standards Board (GASB) imposes some very specific measurement and reporting responsibilities on government human services organizations (see also Grasso, 1994; Kautz, Netting, Huber, Borders, and Davis, 1997; Moynihan & Kroll, 2015).

Finally, the duration of service effect as it relates to cost is a virtually unstudied topic. Is it more cost effective for example, to administer a low cost treatment repeatedly than it is to administer a more costly treatment once? Our present preoccupation with "least cost" criteria has often meant the reemergence of the old problem of the revolving door. In such cases, while a single episode of treatment may be highly efficient, the long-term costs of its

repeated application may far exceed the costs of more expensive, but less frequently needed interventions.

Conclusion

The rapidly rising importance of cost concepts in the world of managed care, combined with the traditional social work posture of leaving cost considerations to management alone are likely to prove increasingly problemmatic in social work over the next few years. In the real world of today, the unit cost of a service episode may be as critically important as more traditional concerns of the profession. Current professionals are generally not well equipped to understand the sometimes arcane jargon of cost accountability and measurement, and few mechanisms are in place for aiding professionals with this or other important transitions to the new order of managed care, independent practice, and contracting. Even more importantly, most professional social workers are not ready to deal with the kinds of issues and questions which cost considerations raise and even those social agency managers who are prepared to deal with them often find themselves somewhat stimied in efforts to explain and interpet cost considerations to service professionals, boards and publics. We clearly need new approaches in social work education and practice to this important topic.

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Appendix A
OMB Financial Management Circulars

All of these circulars were available at the OMB web site at the time of publication:
<http://www.whitehouse.gov/WH/EOP/OMB/html/index-ffm.html>

A-21	Cost Principles for Educational Institutions
A-50	Audit Followup
A-87	Cost Principles for State, Local and Indian Tribal Governments
A-102	Grants and Cooperative Agreements with State and Local Governments
A-110	Uniform Administrative Regulations for Grants and Other Agreements
A-122	Cost Principles for Nonprofit Organizations
A-123	Management Accountability and Control
A-125	Prompt Payment
A-127	Policies and Standards for Financial Management Systems
A-128	Audits of State and Local Governments
A-129	Managing Federal Audit Programs
A-133	Audits of Institutions of Higher Education and Other Nonprofit Institutions
A-134	Financial Accounting Principles and Standards