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Examining the Potential Benefits of a 2-1-1 System: Quantitative and Other Factors

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While 2-1-1 systems are being planned and implemented across the United States, policymakers and other stakeholders must weigh the costs of implementation against the perceived benefits. How do proponents of 2-1-1 systems present the benefits of their systems? This article will address two issues: examining the variety of ways that 2-1-1 systems benefit their communities and suggesting methods to measure those benefits.

2-1-1, the three-digit dialing code for community health and human services information and referral (I&R), is gradually being implemented throughout the United States. 2-1-1 systems are funded through a variety of local, state, and federal public funds, private grants and contributions, and revenue-generating resources (University of Nebraska Public Policy Center, 2000). As 2-1-1 becomes more widely known and moves to the national policy agenda, it is important to critically examine the benefits of 2-1-1.

The benefits of 2-1-1 systems may be described in three ways:

1. Benefits may be portrayed through a description of the **outcome** of 2-1-1 implementation, either in terms of the *result* or through *anecdotal stories*. For example, the benefit of a 2-1-1 system may simply be described as "Individuals will now have an easy to remember nationwide number to call when they need non-emergency help" (Federal Communications

Commission, 2000, p. 13). Anecdotal reports of bene-fits may also be persuasive. Hypothetical examples might include: *working parents will have a resource for quality child care referrals*, or *domestic violence survivors will have a place to learn of resources to leave abusive situations*.

2. The establishment of a 2-1-1 system may be described simply as a **moral imperative**. For exam-ple, "United Way believes people deserve easy access to health and human service information—child care to utility assistance" (United Way of the Midlands, 2003).

3. Finally, the benefits of 2-1-1 systems may be **quantified**. Quantification may include measuring the outcome through some numeric device and/or monetizing the benefits. Quantification attempts to reduce benefits to numbers that may then be used as a way to compare the perceived benefits to expected costs.

This article will explore the third option and examine how the benefits of 2-1-1 may be quantified. It will also present and discuss models and methods to do so. We do not pre-sent a completed benefits analysis; rather, we will present general guidelines that may be applied to 2-1-1 systems.

Background

Since the 1980s, there has been increasing interest in (and, in many cases, executive and legislative mandates requiring) the quantification of the benefits of social pro-grams (see Draft 2003 Report to Congress on the Costs and Benefits of Federal Regulations, 2003; Hahn & Sunstein, n.d., pp. 12-23) and the comparison of these quantified benefits to projected costs. When both benefits and costs are reduced to an economic valuation (i.e., reduced to dollars), expected costs may then be subtracted

from projected benefits to create a **Cost-Benefit Analysis** (CBA). When benefits are <u>not</u> reducible to economic valuation but may be quantified in some other way (e.g., as a numerical index), benefits may then be compared to costs in a **Cost-Effectiveness Analysis** (CEA). CBAs and CEAs have been applied to a wide variety of social programs, including reducing lead contamination in drinking water, the labeling and use of agricultural pesticides, establishing poison control centers, transportation alternatives, mental health interventions, reducing drunk driving, and policies related to de-forestation.

Despite the prevalence of quantifying the benefits of social programs, great ambivalence exists about the concept of reducing the benefits of social programs to numbers. Critics warn that attempting to create artificial valuation for inestimable goods (such as life itself or the beauty of a scenic vista) is simply not possible. Skeptics point to untenable study conclusions, such as the suggestion that states save money when their citizens smoke because their early deaths result in cost avoidance of aging and long term care services (Ackerman & Heinzerling, 2002). Academicians have criticized the approach, arguing that methods used to attach economic value are tenuous and incomplete at best and baseless at worst (Broome, 2000; Richardson, 2000; Sunstein, n.d.; both Richardson and Sunstein are supportive of CBA, but describe objections of critics).

Other researchers and practitioners defend CBA as a means to consider and compare relevant factors, transparently weigh advantages and disadvantages, and serve as a decision making tool. "We do not conceptualize CBA as the exclusive choice procedure for government, but rather as one part of the overall set of procedures and institutions by which projects are ultimately approved, rejected, or amended" (Adler & Posner, 1999, p. 245). It is suggested

that although CBA alone is not necessary or sufficient for public policy support, the analysis technique provides useful insight into understanding how interested parties may support or oppose a particular program (Becker, 2000).

We follow the researchers who believe information gleaned through CBA provides value in understanding the ramifications of social policy.

Conceptual Models

The benefits of social programs may take many different forms. For quantification purposes, benefits may fall into one of three main categories: 1) benefits that can be *monetized*; 2) benefits that can be *measured* but *not monetized*; and 3) benefits that can be neither *monetized* nor *measured* but can only be *qualitatively described*. We will describe alternative valuation/description approaches in each of these three categories, particularly as they relate to 2-1-1 programs.

- **Monetizing**

    Monetizing provides a common financial measure of benefits. Monetization also allows comparison to dollar-denominated anticipated costs. A number of approaches can be taken to monetize benefits of social programs.

    - Market prices and indirect market prices

        One approach for valuing the benefits of social programs is to base the benefits on prices people are actually paying for comparable goods in the competitive marketplace. The theory underlying this approach is that the dollar value of the benefit is reflected by the cost charged in the marketplace to consumers. When actual market prices are available, this valuation is considered the most accurate of all monetizing techniques (Draft 2003 Report to Congress on the Costs and Benefits of

Federal Regulations, 2003).

In instances where there is some reason to believe that the market price does *not* accurately reflect the actual benefit (for example, when the price of a product has been artificially inflated or depressed by government programs), the market price may be adjusted to capture the appropriate benefits. In these cases, analysts supplement or reduce the market price to determine the *shadow price*, or complete social value of the benefit.

Unfortunately, markets do not exist for many social programs. Indeed, social programs often exist because there is no "market" or profit-making motivation to provide many social services. This is the case for 2-1-1. There are currently no free-market information and referral services for health and human services as a whole. Therefore, the market price approach provides only theoretical guidance. However, there may be markets for some of the component benefits that can accrue from a social program such as 2-1-1. Time saved or travel costs, for example, can be valued at market prices. Thus, the overall benefit can be broken into component parts and each part valued at a relevant market price.

- <u>Revealed Preference</u>

Although competitive markets may not provide a direct valuation of the benefits of a program, competitive markets may provide an indirect valuation when the value is embedded in the price of another good in the marketplace. This indirect valuation is known as *revealed preference* because consumers disclose the value of a program through market transactions. Revealed preference may be calculated, for example, by calculating "the value of envi-

ronmental amenities derived from travel-cost stud-
ies, hedonic price models that measure differences
or changes in the value of land, and statistical
studies of occupational-risk premiums in wage
rates" (Draft 2003 Report to Congress on the Costs
and Benefits of Federal Regulations, 2003, p.
5519). Another example might be an estimate of
the value of open space or parks based on real
estate transaction premiums within a radius of the
amenity.

   Using the revealed preference methodology
requires great care to ensure that consumer
choices in the marketplace are being appropriately
attributed to the program being considered. In the
case of 2-1-1, it is difficult to imagine that the pro-
gram is embodied within other consumer market
choices, so we move on to other valuation
techniques.

- <u>Stated Preference</u>

   When the competitive market does not provide
direct or indirect valuations, an alternative
approach to valuing benefits is to determine what
consumers hypothetically would be willing to pay to
access the program. Often, willingness-to-pay is
determined through surveys of persons who may
be positively impacted (e.g., will access and benefit
from the service) or negatively impacted (e.g., may
have to pay for the service but not receive any
direct benefits from it) by a program's implementa-
tion.

Creating a hypothetical marketplace using the willingness-to-pay methodology requires great care. Willingness-to-pay is a fairly new methodology, and protocols are still evolving to ensure reliable results. Important considerations include the impact of: sampling; administration (e.g., face-to-face, telephone); information provided to subjects for informed responses; signaling the cost of comparable services or of bidded choices subjects may accept or reject; statistical analytic procedures; the probability of subject use of the program; and subject personal income (Draft 2003 Report to Congress on the Costs and Benefits of Federal Regulations, 2003; Phillips et al., 1997).

- <u>Benefit transfer</u>
  In cases where it is not feasible to conduct a study of market or alternative valuation of benefits, it may be possible to adapt results of similar studies and to apply those results to the social program being considered. This approach of transferring the benefits of a program within a similar context is known as benefit transfer. Estimating values via benefit transfer may be less time consuming and less costly than conducting a new study to quantify benefits. However, because of the possible difficulty of finding reliable, relevant studies and then making appropriate transfers, this approach is often regarded as a "last case" approach.

  Benefit transfer studies may provide a rough, timely estimate for 2-1-1s. However, care should be taken to ensure that the studies are appropriate and the methodology sound.

- **Measuring/Non-Monetizing Techniques**

  For some programs, benefits are measurable but cannot be reduced to dollars. In these cases, it is important that the impact be measured and reported. This form of reporting benefits is particularly useful for health-related programs. For example, program impacts may be reported as gains in quality-adjusted life years, numbers of lives saved or in terms of environmental programs such as improvements to water quality.

  Measured, non-monetized benefits should be reported to give a comprehensive picture of the impact of a program. (Of course, if benefits are eventually compared to costs, non-monetized benefits cannot be included in that calculation.)

  For 2-1-1, there may be a variety of measurable, non-monetary impacts. Some will be addressed later in this article.

- **Benefits Which Are Impossible to Measure**

  Finally, attempting to monetize or measure some benefits may be impractical (the process may be too costly or time-consuming) or impossible. In such cases, those benefits should be fully described and the choice not to quantify should be clearly stated and defended.

  Not quantifying some of the benefits reduces the usefulness of the analysis in comparing benefits to costs (as in a CBA). However, most analysts would reject the notion that the only important benefits are quantifiable benefits. Both qualitative and quantitative analyses should be provided. The qualitative description should give a concrete sense of who is helped and who is hurt—for example, whether the regulation will lead to lost jobs, higher prices, more poverty, and so forth. (Sunstein, 1999, p. 207). Like many social pro-

grams, 2-1-1 will provide benefits that are impossible to measure but should be included in an analysis of its benefits.

Benefits of 2-1-1 Systems

Having reviewed the general approaches to either describing or quantifying social program benefits, we will now postulate the benefits of 2-1-1 systems. In order to complete a comprehensive picture of the benefits of a social program, it is important to consider everyone who may be impacted by the project and the value of the impact. Hence, we shall look at benefits accruing to various stakeholders in 2-1-1 systems.

- 2-1-1s serve consumers directly and indirectly (by providing information and referral to those helping others, such as case managers and caregivers, neighbors, and friends).
- 2-1-1s are often particularly important to populations traditionally thought of as vulnerable (including those who are elderly, disabled, incapacitated by crisis, illiterate, or new to their communities), as well as to persons not typically considered vulnerable (such as parents seeking child care options).
- Many 2-1-1s also serve as community hubs that match volunteers and donors with community agencies.
- Finally, because 2-1-1s collect data about the needs and availability of services in their communities, 2-1-1s often serve as a resource to community policymakers and funders.

2-1-1s have been credited with providing numerous benefits to the many populations they serve. Such benefits may be grouped as benefits to: individuals, families, and caregivers; employers; social services providers; volunteers and donors; and planners and funders. We will examine specific benefits to each of these populations.

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- **Benefits to Individuals/Families/Caregivers**
  - Increasing the number of persons who achieve self-sufficiency and ultimately reduce their dependence on government services such as welfare.
  - Avoiding expensive alternatives (such as visits to emergency rooms or placement in nursing homes).
  - Reaching consumers earlier in their need, thus helping them sooner and often at a lower cost.
  - Reducing consumer frustration at having to bounce from provider to provider to find an appropriate and available service.
  - Savings in time to locate services.
- **Benefits to Employers**
  - Reducing lost employee workdays due to seeking appropriate services or dealing with issues for which resources are available but unknown.
  - Reducing unproductive time at work.
- **Benefits to Social Service Providers**
  - Reducing inappropriate contacts to providers.
  - Reducing inappropriate calls to 9-1-1 dispatchers.
  - Reducing time agencies spend finding appropriate ancillary services for clients.
  - Reducing duplicative information and referral efforts.[1]

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[1] We are not implying either that non-2-1-1 I&R services are unnecessarily duplicative or that a complete 2-1-1 system obviates the need for non-2-1-1 I&R. Rather, we suggest that implementation of a 2-1-1 system would allow some agencies to focus their scarce resources on delivering other services that meet their constituents' specific needs rather than using those resources for general information and referral services. We would expect that some non-2-1-1 agencies would appropriately continue to provide I&R, particularly in the case of specialized (e.g., elderly, children with special health needs, new Americans) resource information and assistance.

- **Benefits to Volunteers and Donors**
  - Increasing volunteering, donations, and/or in-kind goods and services

- **Benefits to Planners and Funders**
  - Reducing duplicative information and referral efforts (see footnote 1)
  - Increasing information available about service coverage and needs
  - Increasing the efficiency and operations of a community's health and human service delivery system
  - Reducing government bureaucracy through leveraging public and private local community and state solutions

Applying Conceptual Models to Benefit Arrays

The next step in the analysis is to suggest techniques for measuring, quantifying, and/or valuing each of the benefits associated with a 2-1-1- system.

- **Benefits to Individuals/Families/Caregivers**
  1. Increasing the number of persons who achieve self-sufficiency and ultimately reduce their dependence on government services such as welfare.

     This is a benefit that has the potential to be quantified and then monetized. However, three interrelated aspects must be considered: how many people will become self-sufficient; what is the value of that self-sufficiency; and what portion of the value may be attributed to gaining access to programs through 2-1-1.

     Estimating the number of people that receive this benefit may be difficult. Nonetheless, estimates can be derived. McGarvey (2003), for example, uses statistical estimation to predict how many disabled

individuals will begin to work with changes in Nebraska's Medicaid Buy-In program. Similar analyses can be performed to see the impact of a 2-1-1 system on workforce participation.

The University of Nebraska Public Policy Center (2003) estimates the monetary value of the disabled returning to work under proposed changes in the Medicaid Buy-In program. Statistical procedures are once again used to estimate the income those individuals will earn. Once incomes have been estimated, it becomes possible to monetize the savings to the state from having those people enter the workforce. These savings come in two forms— in dollars saved by no longer having to provide social services to these individuals and in the extra tax revenues derived from the income earned by returning to work. For both forms of benefits, the dollars saved or derived represent the monetary value of the benefit.

For the individual, entering or returning to the work force means an increase in income net of taxes and lost benefits. This increase in net income is the minimum monetized value to the individual. The psychological value an individual receives by becoming self-sufficient is more difficult to quantify and monetize, but revealed preference and willing-ness-to-pay studies can provide some insight. Benefit transfer measures from the implementation of other similar social programs may shed some light on measuring this benefit as well. In addition to any monetized benefit, it should also be possible to measure the impact in terms of lives affected.

The role that 2-1-1 can play in helping individuals learn about programs to become self-sufficient is a final, critical piece. Other studies may provide

insight on the role of information and referral to successfully accessing services. This may be considered in two steps: 1) how many persons act on the referral to access services; and 2) how many of those persons would not otherwise have learned about the service. Many information and referral agencies maintain statistics (gathered through follow-up surveys) on the number of assisted persons who act on referrals. Benefit transfer measures may provide some guidance on the role of 2-1-1 in persons accessing services that they otherwise would not have found out about through other means. Anecdotes, usage statistics, and experience indicate that 2-1-1s can play an important role in linking persons with needs to appropriate services in a timely manner. However, less is known about how 2-1-1s contribute to the overall efficacy of human services systems within communities. Greater precision is needed to more fully understand and value the role and rates of 2-1-1s in clients' eventual access to services.

2. Avoiding expensive alternatives (such as visits to emergency rooms or placement in nursing homes).

This is another potential benefit that requires estimating the number of people who may avoid expensive alternatives and then valuing that avoidance. Valuing the avoidance is relatively straightforward as there typically will be market prices for most if not all of the avoided services. For example, if someone avoids an emergency room visit and such a visit costs $700, then the monetary value is $700. There is an array of potentially avoided services, and each service could be valued at its market price.

The more difficult part of monetizing this benefit is quantifying how many people will receive this bene-

fit. It may be possible to use statistical methods to estimate the number of beneficiaries; alternatively, the facilities may already have their own estimates of this information and be willing to share them with researchers. A trade group representing nursing homes in Nebraska, for example, has its own estimates of the number of nursing home patients that could be moved to assisted-living. Conservative estimates of the percentage that would move due to better information for a 2-1-1- system would allow monetizing this benefit. Imagine that a community or region may have ten assisted-living beds vacant at any one time due to imperfect communication between facilities and potential residents. If a 2-1-1 system could reduce that problem by 30 percent, it would remove three people from a nursing home to an assisted-living facility. (For an example, see University of Nebraska Public Policy Center, 2000.)

   As noted previously, more information is needed about the role of 2-1-1s in the delivery of services within communities so that appropriate benefit attributions may be made.

3. Reaching consumers earlier in their need, thus helping them sooner and often at a lower cost.

   Once again, monetizing this benefit requires estimating the number of consumers that may be reached earlier and then valuing that information. This valuation will typically be at market prices. If earlier intervention means counseling rather than inpatient care, the dollar value of the saving is the difference between the costs of the two services.

   Estimating how many people are reached will be more difficult. However, discussions with professionals in the area may provide enough information to make a conservative estimate.

4. Reducing consumer frustration at having to bounce from provider to provider to find an appropriate and available service.

Valuing reduced frustration is probably most readily done using a willingness-to-pay study. An appropriate sample of individuals could be asked how much they would be willing to pay to be able to make one call and receive appropriate information rather than bounce around the system in its current form.

5. Savings in time to locate services.

Time saved can be valued using conventional value of time studies. These are frequently done in travel studies, for example, and those sources should provide reasonable monetary values. (See Forester, et. al.,1984, for an example.)

Another approach would be to value time at an average hourly wage that can be imputed from wage data collected by state and/or federal government agencies. The U.S. Bureau of Labor Statistics, for example, collects extensive wage data by states and regions.

The amount of time saved can be developed from a variety of sources. King et. al. (1998), for example, estimate the time saved at 40 minutes. A survey of relevant system users may show time currently used and provide an estimate of time saved from an integrated information referral network.

- **Benefits to Employers**
  1. Reducing lost employee workdays due to seeking appropriate services or dealing with issues for which resources are available but unknown.

  Once again, two interrelated aspects must be considered in valuing this benefit: how many days will

be saved and what the value is of that savings.

A survey of employers may produce reasonable estimates of the number of days saved. Labor or employer organizations may have this information as well. Social service agencies may also have esti-mates.

The time saved can be valued using readily avail-able market data. Wage rates are one way to value the time saved. Employer-avoided costs from replacing workers with temporary employees repre-sents another.

2. Reducing unproductive time at work.

Again, valuing time can be done using market wage data. Employers should have good estimates of time lost or unproductive time delays. This infor-mation may be attainable by survey. Trade organi-zations or human resource organizations may have estimates as well. Social service agencies or other groups involved in providing services may have estimates of the percentage of their clients or the population in general that may receive this benefit.

- **Benefits to Social Service Providers**
  1. Reducing inappropriate contacts to providers.

     Through information and referral provided by 2-1-1, potential clients will be more likely to know which social service agency could assist them. Social service agencies will avoid expending resources on contacts from persons seeking services not offered or for which the person is not eligible. For example, a person seeking food may find a Food Bank in the White or Blue pages and assume that the Food Bank may provide emergency groceries. However, the Food Bank may operate, instead, as a food channel to other agencies who actually distribute the food. In this instance, a 2-1-1

could more appropriately refer the individual to agencies that distribute food directly to clients. This avoidance of inappropriate contacts, based on consumers' receiving accurate referrals available through a 2-1-1, represents a cost-savings to agencies.

Social service agencies should be able to estimate of the number of calls and time spent where this misdirection is a problem. Based on that data, conservative estimates could be made of the reduction that will occur due to a better information system. The time spent on those calls would be valued at the cost of providing service as discussed above, thereby monetizing the benefit and producing a measure of the economic benefit.

2. Reducing inappropriate calls to 9-1-1 dispatchers.
   Existing 9-1-1 systems should have good statistics on the number of inappropriate calls they currently receive, as should associations representing 9-1-1 systems. (The National Emergency Number Association, for example, keeps statistics on the number of accidental calls to 9-1-1 systems.) The 9-1-1 systems should also be able to provide good estimates of the time spent on those calls and the value of that time in terms of their resource costs. Using this data, it should be possible to conservatively estimate the number of inappropriate calls that could be avoided with a national 2-1-1 system. Combining the cost saving with the number of avoided calls would monetize this benefit.

   It is also possible that a willingness-to-pay study may reveal the benefits citizens generally receive from a less congested 9-1-1 system. There may already be willingness-to-pay studies related to 9-1-1 service provision that can be transferred to a 2-1-1

system benefit. Alternatively, revealed preference analysis may be useful in looking at communities that have reduced 9-1-1 congestion through upgrades or other investments. The cost of those investments is a measure of the economic benefit.

3. <u>Reducing time agencies spend finding appropriate ancillary services for clients.</u>

   Ancillary services refer to events in which social service information providers assist clients with accessing services outside the agencies' core area. Social service agencies should have estimates of time spent on ancillary services and time that could be saved via a national 2-1-1 referral system. This should be a potential source of saving, as an integrated system would allow for better direction of clients to the appropriate service providers. The time saved can be valued at agencies' costs of service or at the cost of service for a single number referral system.

4. <u>Reducing duplicative information and referral.</u>

   This may be another area where an integrated system can produce significant savings. The benefit would accrue in that agencies who currently provide I&R services as well as direct services would be able to devote more time to providing the direct services to clients because they would have to devote fewer resources to I&R operations (because most individuals would be calling the designated 2-1-1 call center to access I&R services). This savings would accrue when agencies have reason to abandon I&R services: for example, agencies who maintain I&Rs simply to better serve their clientele in the absence of other comprehensive sources of information. (Note that we are <u>not</u> suggesting that all non-2-1-1 I&Rs would be duplicative. In fact, some agencies

would rightly maintain their I&R services as an adjunct to a 2-1-1 service. This may particularly be the case with I&Rs devoted to specific populations, such as the elderly, children with special needs, or new Americans.)

At a minimum, the benefit could be valued at the cost of time for social service providers. This information should be readily available; alternatively, a survey of providers may produce an estimate as well.

A less concrete though still important other benefit is the value to consumers of the additional social services that would be available due to the time savings. Measuring this benefit would most likely require some type of willingness-to-pay analysis. It may also be valued based on the additional clients that can be served and the average benefit to the additional client. Alternatively, it could be quantified in terms of additional hours of availability or hours saved. This benefit applies in most of the other social service provider categories as well.

- **Benefits to Volunteers and Donors**
  1. <u>Increasing volunteering, donations, and/or in-kind goods and services.</u>

     The increase in volunteers, donations and/or in-kind goods and services that will result from a 2-1-1 system would be difficult to quantify. However, once estimates have been made, monetizing that benefit would be straightforward. Volunteer time could be valued at the cost to the social services system of providing comparable hours. Donations would be monetized at their dollar values, while contributions of goods and services would be valued at their market prices.

- **Benefits to Planners and Funders**
  1. <u>Reducing duplicative information and referral efforts.</u>
     To a large extent, the monetary cost of duplicative resources has been measured in the discussions above. If those savings allow for reductions in social service budgets and the avoided costs are returned to the taxpayers, the benefit could be valued as the dollars saved. Alternatively, if those savings result in the provision of other services, then the benefit may be measurable in terms of the value of alternative services provided.
  2. <u>Increasing the information available about service coverage and needs.</u>
     Here again, most of the monetary benefits have already been captured in the preceding analysis. If more people know about information and referral, more people will have access to the information they need. The easily quantifiable parts have been cap-tured in benefits to individuals and businesses.
     Less quantifiable is the psychological benefit soci-ety receives from knowing that more of its citizens can receive the help they need in a more timely and efficient manner. This would be a place where a willingness-to-pay analysis might be helpful in monetizing the benefit. Short of that, the benefit could also be quantified in terms of the additional number of individuals helped over a period of time.
  3. <u>Increasing the efficiency and operations of a community's health and human service delivery system.</u>
     Increasing efficiency readily translates into cost savings. The cost saving is a measure of the benefit to planners and funders. An increase in efficiency can also mean that more resources are available to help additional people. In this case, the benefit is

monetized as the time saved and increased productivity accruing to these individuals. Processes for doing this are discussed above.

4. <u>Reducing government bureaucracy through leveraging public and private local community and state solutions.</u>

Reducing bureaucracy and leveraging solutions is a more difficult benefit to monetize. Parts of it, however, are open to description.

Discussion

The monetization, quantification, and qualification of benefits may provide unintended consequences. The monetization of some (but not all) benefits may establish a dollar figure that can be misused or misinterpreted. Some researchers warn that the "bottom line number offers an irresistible sound bite that inevitably drowns out more reasoned deliberation" (Ackerman & Heinzerling, 2002). But Hahn and Sunstein (n.d.) counter that "the actual record does not support this concern" (p. 8).

Cataloging benefits is also not a panacea that will ensure swift adoption of 2-1-1s. The consideration of benefits (as well as costs) is still just one piece of information that policymakers and other funders need to consider in a time of constrained funds for social programs. However, such an accounting may play an important role (Adler & Posner, 1999), especially when data are plentiful and analysis occurs early in the process (p. 8).

Additional exploration of the role that 2-1-1s play in linking callers to appropriate services needs to be undertaken. Who determines what kind of service is appropriate and efficacious and, therefore, should be included in a 2-1-1 database? Should 2-1-1s be in the business of measuring outcomes, such as clients achieving self-sufficiency? If so, what is their role in evaluating programs?

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Conclusion

Business firms frequently use net present value analysis to help determine whether a project's expected benefits outweigh its predicted costs. Cost-benefit analysis performs a similar function for public sector investments. The technique monetizes the expected benefits of a project and compares them to the projected costs. Unfortunately, the process of monetizing benefits can be difficult or incomplete. Some benefits may be measurable in dollar terms. Others may be quantifiable in terms of lives affected or some other measure, but not in dollars. Still other benefits derived from a project may be difficult or even impossible to quantify.

This article sheds light on tools and thought processes that may be used in quantifying and/or valuing the benefits of a social investment. It focuses on the development of 2-1-1 community health and human services information referral systems. Benefits accrue to many stakeholders in a 2-1-1 information referral system, including individuals, families, caregivers, employers, social service providers, volunteers, funders, and planners. A number of the benefits amassed by each group can be measured in dollar terms. Methods have been suggested for measuring the benefits from reaching consumers sooner and more effectively, reducing time lost at work, and improving system efficiency.

The methods used to value the benefits of a 2-1-1 system are applicable to a variety of other social investments. For example, wages can be used to value time saved or incomes gained, and avoided costs can be used to monetize efficiency savings related to almost any project. Valuing other benefits may require willingness-to-pay or revealed preference analysis, or it may require some benefit transfer estimation. These tools are more cumbersome

than using market prices, yet they are appropriate in measuring benefits that improve peoples' lives or provide psychological value.

The list of tools certainly is not complete. There are other ways to value, quantify and/or describe the benefits from social programs. Furthermore, cost-benefit analysis is not without its detractors. On the whole, however, the technique does provide some information on the relative worth of a social project. It gives policy makers a way to evaluate individual projects and to make choices among projects competing for scarce public dollars.

As 2-1-1s are promoted throughout the country, a national agenda is being developed. National consideration of benefits (and costs) may play an important role in increasing the visibility and viability of a national 2-1-1 system.

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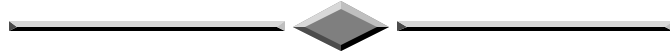
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