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Do Networks Really Work? A Framework for Evaluating Public-Sector Organizational Networks

Although cooperative, interorganizational networks have become a common mechanism for delivery of public services, evaluating their effectiveness is extremely complex and has generally been neglected. To help resolve this problem, we discuss the evaluation of networks of community-based, mostly publicly funded health, human service, and public welfare organizations. Consistent with pressures to perform effectively from a broad range of key stakeholders, we argue that networks must be evaluated at three levels of analysis: community, network, and organization/participant levels. While the three levels are related, each has its own set of effectiveness criteria that must be considered. The article offers a general discussion of network effectiveness, followed by arguments explaining effectiveness criteria and stakeholders at each level of analysis. Finally, the article examines how effectiveness at one level of network analysis may or may not match effectiveness criteria at another level and the extent to which integration across levels may be possible.

An important issue in the delivery of publicly funded health and human services at the local-community level is the integration and coordination of organizational providers into service-delivery networks. The development and utilization of these networks has been a focus of organizational and public policy scholars since at least the 1960s. Much of the early work on the topic (Levine and White 1961; Warren, Rose, and Bergunder 1974) focused on the importance of cooperative relationships among individual organizations, such as referrals and joint programs, how they work, and the impact of such relationships on organizational structure and behavior.

Recently, the focus has broadened from a concern with individual relationships among organizations to an examination of the multiple interactions that comprise full networks, including discussion of how public policy is implemented through networks of cooperating service providers (Agranoff 1991; Alter and Hage 1993; Jennings and Ewalt 1998; O'Toole 1997). Empirical researchers, often using sophisticated network-analysis techniques, have tried to understand exactly how agencies coordinate and integrate their activities, often emphasizing differ-

ences in network structures and governance (Bolland and Wilson 1994; Laumann and Knoke 1987; Provan and Milward 1995).

What has been lacking in most of this work, however, is an examination of the relationship between interorganizational network structures and activities and measures of effectiveness. Evaluating network effectiveness is critical for understanding whether networks—and the network form of organizing—are effective in delivering needed ser-

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vices to community members. Evaluation of network effectiveness is especially important for those who formulate public policy at local, state, and national levels, so that scarce public funding can be allocated to service-delivery mechanisms that are utilizing resources efficiently while adequately serving public needs.

In O'Toole's (1997) terms, if we are to "treat networks seriously," we must understand whether they work. To do this, it is first necessary to understand what network effectiveness means and what issues must be considered in its evaluation. Unfortunately, there is little agreement among organizational and public-policy scholars or among public administrators about how community-based networks of health and human service organizations should be evaluated. The problem is especially acute in view of the multiple stakeholders that can and do lay claim to the organizations that comprise a network, and in view of the fact that most health and human services are now provided by private, not-for-profit agencies that are only loosely monitored and evaluated by the public entities that fund them.

In this article we develop a rationale for the need to evaluate publicly funded, community-based networks of organizations, while acknowledging the difficulties inherent in such an evaluation effort. We then devote most of the article to proposing a framework for network evaluation. Our model focuses on evaluation of networks at three broad levels of analysis: community, network, and organization/participant levels. All three must be considered, though not necessarily equally. It is not our intention to develop detailed mechanisms for evaluating networks, but to discuss both the rationale for evaluation and the issues that must be considered for determining whether a network appears to be performing at a level that justifies continued public support.

Issues for Evaluating Network Effectiveness

To date, there has been very little work devoted to understanding and assessing network effectiveness. The prevailing view has been that interdependent groups of two or more organizations that consciously collaborate and cooperate with one another are more effective at providing a complex array of community-based services than the same organizations are able to do when they go their own ways (Alter and Hage 1993). The logic behind this belief is powerful, and it builds on concepts from game theory that cooperation will produce outcomes that are more favorable to both parties than when the parties compete (Axelrod 1984). The belief has been especially strong in health and human services, where norms of competition have not been nearly as strong as they have in the for-profit business sector. Cooperation is particularly ap-

pealing when the profit motive is absent, because the potential downsides of cooperation, such as reduced autonomy, shared resources, and increased dependence, are less likely to be seen as a threat to survival. In the public sector resources are often scarce, clients have multiple problems, service professionals are trained in narrow functional areas, and agencies maintain services that fit narrowly specified funding categories. Under conditions like these, networks of providers offer a way to provide services effectively while still maintaining acceptable levels of organizational and professional autonomy.

But do public-sector networks really work? Because good comparative network data that are tied to outcomes are scarce (Lehman et al. 1994; Provan and Milward 1995), it is still premature to conclude that networks are effective mechanisms for addressing complex policy problems, despite their promise. Yet a reasonable assessment of network effectiveness is critical to justify involvement by provider agencies and to justify public support of the concept.

The difficulties of assessing network effectiveness are closely related to those of evaluating organizations, but they are even more complex. Most recent attempts to evaluate organizational effectiveness have been based on the concept of satisfying the organization's key stakeholders (Freeman 1984). Probably the most critical stakeholder group that must be satisfied is customers, and this view has formed the basis of the quality movement in recent years (Deming 1986). By satisfying customers and by maintaining a customer-driven focus, the organization will presumably be effective, not only to its customers and clients, but also to other stakeholders, such as suppliers, shareholders, and employees, all of whom stand to benefit by reaping the rewards that accrue to a customer-driven organization.

This approach is logical and certainly appealing to customers and clients. However, clients represent only one group of constituents, and for public-sector organizations, they may not even be the most critical stakeholder group. For instance, welfare agencies and jails both must satisfy the needs of taxpayers and politicians, often at the expense of welfare recipients and inmates. Even for organizations like public schools, where students and families are typically viewed as the most important constituent group and where satisfying their needs is critical for success, students' needs are likely to be fragmented, resulting in multiple constituent groups with very different views about how success should be measured. Gifted students and their families may have one view of what the school should provide, whereas students with learning disabilities and their families may have quite a different view.

For all the problems associated with evaluating and assessing the effectiveness of organizations, evaluation becomes even more complex when addressing networks. Networks must contend with the joint-production problem

of multiple agencies producing one or more pieces of a single service. This means, of course, that assessing the effectiveness of a network is more complex than evaluating a single organization. Most problematic is the fact that multiple organizations require dealing with multiple sets of constituencies. The joint production of services may satisfy clients with multiple needs, but it may also raise substantial problems regarding resource sharing, political turf battles, regulatory differences, and the like. Thus, some stakeholder groups may be quite satisfied with delivering marginal-quality services to clients, so long as the services are delivered by individual agencies they can understand and control. The prospect of high-quality, efficient services delivered by multiple agencies may not be as appealing to some stakeholder groups when the coordinating activities of these agencies are not well understood and when their actions cannot be readily monitored and controlled.

Consistent with a multiple-stakeholder perspective, evaluation of network effectiveness can be viewed at three levels of analysis: the community, the network itself, and the network's organizational participants. These levels are of concern to three broad categories of network constituents: principals, who monitor and fund the network and its activities; agents, who work in the network both as administrators and service-level professionals; and clients, who actually receive the services provided by the network. We use agency theory (Fama and Jensen 1983) as an organizing framework for the primary network constituent groups, recognizing that an agent at one level may be a principal at another level. The three levels of analysis and their importance for each of the major constituent groups will be discussed separately, although in practice there may be considerable overlap across levels. An overview of the relationships we explore and related effectiveness criteria is presented in table 1.

Our focus here is community-based networks, which primarily deliver a variety of health and human services. While some of the organizations involved in these networks are public entities, most are not-for-profit. Nonetheless, most of the networks themselves can readily be viewed as public-sector networks, since much of the funding that is received by participating agencies is public. While some authors have focused on policy networks, mostly involving relations among federal, state, and local government entities (Derthick 1970; Laumann and

Knocke 1987; Milward and Wamsley 1985), we focus on networks of service providers operating in local communities. The recent devolution movement in the U.S. federal government (Smith and Lipsky 1993) and other governments around the world has reinforced the importance of dealing with and paying for problems at the local level. When public services cannot or should not be centralized, often for political reasons, community-based networks are the logical mechanisms for providing public services that are, at least in theory, relatively efficient and effective.

Network Effectiveness at the Community Level

At the broadest level of analysis, community-based networks must be judged by the contribution they make to the communities they are trying to serve. Most problems in the public domain, particularly in health or human services, are essentially community problems that must be addressed at the community level. While the concept of "community" is difficult to define with any precision, we use the term loosely to describe the local area that is served by a network. These areas seldom coincide precisely with the boundaries of a municipality, although at least some portion of the populace of the town, city, or county presumably stands to benefit, directly or indirectly, from the services provided by the network.

Thus, networks must be evaluated as service-delivery vehicles that provide value to local communities in ways

Table 1 Summary of Network Evaluation Relationships

Levels of network analysis	Key stakeholder groups	Effectiveness criteria
Community	Principals and Clients <ul style="list-style-type: none"> • Client advocacy groups • Funders • Politicians • Regulators • General public 	<ul style="list-style-type: none"> • Cost to community • Building social capital • Public perceptions that problem is being solved • Changes in the incidence of the problem • Aggregate indicators of client well-being
Network	Principals and agents <ul style="list-style-type: none"> • Primary funders and regulators • Network administrative organization • Member organizations 	<ul style="list-style-type: none"> • Network membership growth • Range of services provided • Absence of service duplication • Relationship strength (multiplexity) • Creation and maintenance of network administrative organization (NAO) • Integration/coordination of services • Cost of network maintenance • Member commitment to network goals
Organization/participant	Agents and clients <ul style="list-style-type: none"> • Member agency board and management • Agency staff • Individual clients 	<ul style="list-style-type: none"> • Agency survival • Enhanced legitimacy • Resource acquisition • Cost of services • Service access • Client outcomes • Minimum conflict for multiprogram agencies across multiple networks

that could not have been achieved through the uncoordinated provision of services by fragmented and autonomous agencies. Putting aside the significant problems of actual measurement, the goal of most public networks is to enhance client services through improved access, utilization, responsiveness, and integration, while maintaining or reducing costs. From a community-level perspective, network effectiveness can best be evaluated first by assessing aggregate outcomes for the population of clients being served by the network, and second, by examining the overall costs of treatment and service for that client group within a given community.

In stakeholder terms, a network must satisfy the needs and expectations of those groups within a community that have both a direct and indirect interest in seeing that client needs are adequately met. Obviously, the specific group of clients served by the network should be satisfied, at least in the aggregate. However, the clients of publicly supported agencies often are not a politically powerful interest group by themselves. Quite the reverse, often they are viewed as public problems—the homeless, abused children, welfare recipients, etc. Thus, other groups that represent the community's and clients' interests must be satisfied by network activities. In agency-theory terms, these are the principals, whose role it is to fund and/or monitor the activities of their agents (network agencies), who provide services to clients. These stakeholders may include consumer advocacy groups such as the Alliance for the Mentally Ill, local funders like United Way, and local officials, both elected and appointed. It also includes the general public, which pays for many of the services needed by clients through taxes and which reaps the indirect rewards of a healthier, safer community.

Satisfying these groups is obviously problematic, especially since they may not agree on either network goals or what would constitute successful network outcomes. While stakeholder groups may agree on some goals, such as cost containment, it is likely they will disagree on others, such as outreach to the underserved. This conflict is often exacerbated by severe resource constraints that make compromise difficult. Should social services be targeted to adults or to families and children? Should behavioral health resources be used primarily for those with mental illness or for those with substance abuse problems? These types of questions present an obvious dilemma to network evaluators, who ultimately must determine which groups constitute the target population that is to be evaluated.

Often, networks of health and human service agencies try to satisfy the needs of these diverse stakeholder groups by minimizing problems. In mental health, for instance, this means not only ensuring that costs are kept under control, but also avoiding visibly bad client outcomes, which

would create problems with the public, the media, and elected officials. Agencies providing services to a common pool of clients may work together to minimize the visibility of problems to the general public—for example, homeless persons in big cities aggressively begging and sleeping on steam grates in downtown business districts. Agencies may also work together to minimize morbidity and mortality rates, such as the suicide rate among the seriously mentally ill, the overall rates of serious crime, or the prevalence of preventable diseases. These are all benchmarks of how well or how poorly a community is doing in comparison to similar cities. They are community-level indicators of the effectiveness of service-delivery networks that do not necessarily reflect the effectiveness of individual network members or the success of individual integrated programs for specific clients.

A final way for networks to be evaluated at the community level is by their contribution to the building of social capital (Putnam 1993). Fountain (1998) discusses this concept as an important outcome of the cooperation and collaboration among agencies and firms. By working together, organizations in a community learn to understand and trust one another, as well as learn whom not to trust. This learning can be extremely important, not just for the production of current services, but also for the joint production of services to be performed in the future, particularly in other service domains. In theory, a network of human service agencies, criminal justice agencies, and business firms could be unsuccessful in reducing neighborhood crime (a community-level outcome) under a particular federally funded program. However, the social capital these agencies build could then be drawn on for the smooth and successful implementation of a later program involving many of the same agencies and firms. The network becomes a more efficient and effective service-delivery mechanism, benefiting the community in ways that would not have been possible if no social capital had been created and maintained.

Effectiveness at the Network Level

While a network may benefit the community in which it is embedded, especially the pool of clients it serves, it must become a viable interorganizational entity if it is to survive. Effectiveness at the community level means the network is likely to have considerable legitimacy and external support by satisfying the needs of clients and other community-interest groups. However, network effectiveness may come at a cost that is too high to sustain the involvement of individual network members. A network is not simply one more community provider organization; it is a collection of programs and services that span a broad range of cooperating but legally autonomous organizations.

To operate effectively, member agencies must act as a network, which means incurring organizing and transaction costs. These costs may be assumed directly by network members, especially in networks that evolve informally. In formally constructed and taxpayer-funded public-sector networks, however, network growth and maintenance is often led, coordinated, and governed by a central, local administrative entity. Lawless and Moore (1989) and Mandell (1984) have referred to this entity as a network broker, though we prefer the term *network administrative organization* (NAO). In its key role as disseminator of funds, administrator, and coordinator of the network, in an agency-theory context, the NAO is both the agent of the community and the principal of the network participants.

The effectiveness of a network and its NAO can be assessed in a number of different ways, many of which depend on the relative maturity and development of the network. The simplest way of evaluating network-level effectiveness is by the ebb and flow of agencies to and from the network. There is no minimum number of organizations required to make a network succeed; however, networks obviously need to attract and retain members, particularly during early growth, if they are to survive as a viable form of social organization.

Once a network becomes well established, effectiveness is not contingent on simply attracting more and more members. Large networks have obvious political advantages, but they may not be particularly efficient mechanisms for service delivery. While newly established networks should be gaining members, mature networks may have a rate of network entry that only modestly exceeds the rate of exit, as peripheral agencies drop out as part of the process of network refinement, particularly as core members work to enhance service quality and become more efficient. It is likely that many peripheral agencies will be attracted to the network; they may be linked informally, primarily through referrals, but effective networks will maintain a limited core of agencies that provide critical services. Some of these core providers may be the products of the merger and consolidation of other agencies as the network moves toward greater efficiency. While there is no theoretical upper limit to the number of agencies that can be part of a network, after surpassing a certain size, any network will become less effective because of increasing coordination costs, especially in the absence of an NAO.

A closely related way of assessing network-level effectiveness is by the range of actual services provided by the network, rather than simply the number of agencies involved. One key advantage of a network is that it allows for the provision of a broad range of services that collectively address the full needs of clients. Yet these services may or may not be adequately provided by the network.

At one extreme, only a limited range of services may be offered by the agencies comprised by the network, forcing clients to go outside the formal network to meet their full treatment needs. At the other extreme, too many agencies and programs may be involved, resulting in a confusing array of services with considerable duplication of effort.

Thus, network-level effectiveness can be judged partly by the extent to which services that are actually needed by clients are provided by the network. Determining what mix of agencies is sufficient to provide a complete inventory of services is rather subjective, although most professionals within a given service domain could probably agree on which services are most critical and which might be considered peripheral. While an effective mix of services may evolve informally, for the most part, decisions about the appropriate mix of services often rest with the NAO because it may fund the network and authorize agencies to provide particular kinds of treatment for clients. In this way, the NAO acts as both the agent of the community, ensuring that needed services are provided, and the principal of the network participants, monitoring, coordinating, and funding their activities.

Newly evolving networks may be effective if network members provide essential services. The mix of network services should gradually expand to include both critical and more peripheral services within the network's core service domain. As the network continues to evolve and mature, effectiveness would then be judged by the mix of agencies across service domains. For example, recently formed networks in criminal justice might include the police (probably as the core agency, or NAO), courts, jails, halfway houses, probation departments, hospital emergency rooms, etc. As the network evolves, other agencies could be added, including those in substance abuse, child and family services, and mental health. Mature networks would also include schools, religious organizations, social welfare, housing, and community outreach programs. The point is that over time, successful networks should be able to broaden their web of ties, moving from the provision of critical core services by a limited number of closely linked agencies, to inclusion of agencies and services that might be seen as more peripheral, and thus more loosely connected. Highly effective, mature networks have a seamless quality that allows information, resources, and clients to flow smoothly across agencies and programs that span the organizational field for health and human services in a community.

A third way of evaluating network effectiveness is to assess the strength of the relationships between and among network members, especially across the full network. During initial formation, the ties among member agencies will be tentative and calculated. The network is new, and agencies that have operated largely independently or only in-

formally with other agencies are now expected to share resources, information, and clients. Because agencies in the public sector work together informally, the transition to a better-developed network is often not as disruptive as in business networks, where firms must shift from norms of competition to cooperation. Nonetheless, all organizations are likely to experience a period of transitional commitment as they move from informal, casual, and easily broken ties to relationships that are either formalized or ones that are less formal but based on trust and commitment built on a history of interactions (Ring and Van de Ven 1994). It remains to be seen how the new emphasis on competitive contracting by public and nonprofit entities (Milward and Provan 1993; Smith and Lipsky 1993) will affect the need for cooperation among members of a service-delivery network.

One network concept that is particularly salient in this regard is *multiplexity*, which refers to the strength of ties between network agencies (Scott 1991). Two organizations are said to have multiplex ties if they are connected in more than one way—through referrals and planning links, for example. Such a tie is stronger than a single link (that is, referrals only) because the relationship is maintained even if one of the two links is broken. It follows that relationships involving four or five different types of ties are stronger still.

For evaluating network effectiveness, multiplexity can be a particularly useful measure. During the early development of network relationships, ties among most members tend to be relatively weak, or loosely coupled, as agencies test each other's commitment and reliability. As the network matures, some of these links will completely dissolve as agencies discover which relationships work and which do not. Other relationships may be maintained at a low level, based on the need for only limited contact and involvement among network members providing certain types of services. However, if a network is working well and is to be sustained over time, the ties among many network agencies will gradually strengthen, particularly among those with complementary services. Effective, mature networks might have a majority of agencies connected through two or three different types of programs or client services as well as through general information sharing and friendship. Multiplexity, and hence the strength of the network, will be high, reflecting commitments among network agencies to one another through multiple activities.

A final way of assessing network-level effectiveness is by evaluating its administrative structure. While the existence of a distinct NAO is not critical to network success, it generally indicates the network is a viable form and resources have been committed to developing the network. While small networks can survive and prosper in the absence of an NAO, such an absence means that

network governance is left to network participants. In this case, the community has no designated agent to guide, coordinate, and legitimize network activities or to monitor service provision. Such a structure is highly unusual in larger networks and is likely to produce weak network outcomes. Non-NAO networks require a high level of commitment to network goals and to interorganizational cooperation by member agencies that is difficult to sustain. For instance, Provan and Milward's (1995) work on mental health networks demonstrates that in Tucson, Arizona, the absence of a strong NAO—in this case a core mental health agency—resulted in largely informal cooperation and coordination among the many providers. Although there were many links across the network, resulting in high overall integration among provider agencies, actual services were not well coordinated and client outcomes were not favorable.

An important way of assessing network effectiveness through the NAO is to evaluate the extent to which the NAO acquires and then distributes resources for and to the network. In most communities in the United States, for instance the success of the United Way, a federated funding organization for community service providers, is measured, at least by its member agencies, by its capacity to attract and distribute community funds to these agencies. In mental health, the core agency is often the principal conduit for state mental health funds and is responsible for obtaining and distributing these funds. As with the United Way, this puts the core agency in a powerful position relative to network participants.

Despite this imbalance in power within the network, the role of the NAO, broker, or core agency is critical for network success. When funds are distributed directly to many providers, there is a far greater incentive for these providers to offer duplicate services and to compete with one another as each agency scrambles to get as much as it can. It is the NAO's job to ensure that resources are distributed in ways that maximize overall network effectiveness for the benefit of the community and the population of clients being served, even at the expense of individual network members. Thus, the NAO acts in its capacity as agent for the community and as principal to its network members, and not as the agent of members. This role, then, legitimates the network and the activities performed by network members on behalf of clients. Strong central control of resources is not, of course, sufficient to ensure network success; however, as Provan and Milward (1995) find, such control is an important indicator that a group of service providers have an incentive to cooperate, both with one another and with the core agency, to ensure that services are provided efficiently across multiple agencies.

Effectiveness at the Organization/ Participant Level

Although network- and community-level outcomes are valid ways of evaluating networks, it is important to recognize that individual agencies and their managers are still motivated partly by self-interest. For organizations considering becoming part of a network, the relevant question is, how can network involvement benefit my agency? Despite the broader value that may accrue to clients and the community at large as a result of the integrated delivery of services through a network, network members still strive to ensure the survival of their own agency. Networks can contribute significantly to organization-level outcomes. Conversely, the success of network members is critical to overall network effectiveness, although sometimes network success can be enhanced through the failure of individual members, resulting in some interesting evaluation problems.

The importance of network involvement for individual agencies can be evaluated on four primary criteria: client outcomes, legitimacy, resource acquisition, and cost. How network agencies might enhance their effectiveness in the last three areas can be demonstrated using the example of a network of community health and human service agencies affiliated with a city's United Way organization. Although United Way is not normally supported by public funds, its affiliated agencies often receive significant public funding, and United Way's own funding decisions are influenced by those of public agencies.

Agencies typically join the United Way to enhance their legitimacy in the community and to acquire resources, primarily funding, more readily than they could on their own. By becoming part of the United Way network in their community, agencies acquire status and acceptability they could acquire on its own only after many years of effort. Agencies also become legitimized as part of the broader network of United Way agencies, allowing them to share information, ideas, and clients. The importance of network affiliation for gaining legitimacy is just as relevant in publicly funded systems, especially for small, relatively unknown agencies with modest power bases in a community (Wiewel and Hunter 1985).

A closely related outcome of network affiliation for individual agencies is resource acquisition. In United Way networks, small agencies have limited fund-raising capacities, while large agencies generally prefer to devote their limited resources to service provision instead of fund-raising, making network affiliation quite attractive for both. In most communities, general fund-raising can be done far more efficiently and effectively when it is centralized through the United Way than if agencies attempted to raise funds on their own. The fund-

ing of United Way can also have multiplier effects, as when United Way dollars are matched by funds from outside grant sources or when city or county funds are turned over to United Way for allocation to agencies, as they are in some communities.

For problems such as mental health and substance abuse, access to state funds may be possible only through affiliation with an NAO or core agency, such as a regional behavioral health authority. Funds that are channeled through an NAO may also interact with legitimacy effects by enhancing the visibility of affiliated agencies and their programs, helping them to attract nonfinancial resources like board members, key staff, and even clients.

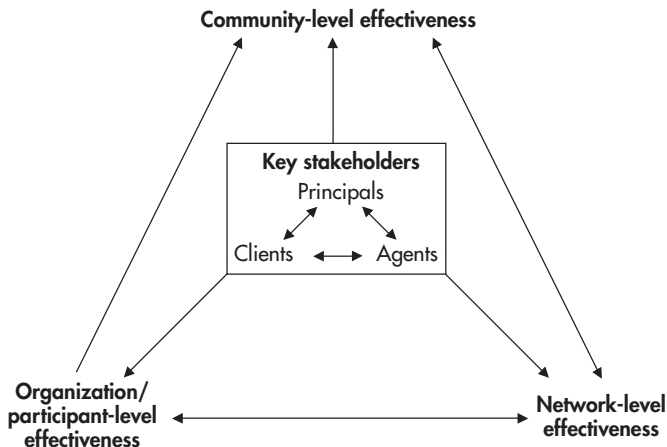
While the benefits of network membership are most apparent to smaller agencies that have low legitimacy and modest capacities to attract resources on their own, these agencies are also likely to experience the greatest costs. Larger, more visible agencies may get less out of network involvement, but their costs are also likely to be lower. For instance, as Provan, Beyer, and Kruytbosch (1980) find, large agencies can exert influence over the United Way, often by threat of withdrawal; an option that is not viable for small agencies. Large agencies often have legitimacy that is well established, allowing them to exert influence in the community that may extend to United Way's fund-raising efforts. Thus, these agencies may be nearly as important to United Way as United Way is to the agency, minimizing the costs of affiliation. Assessing the value of network membership to these large, powerful agencies makes sense only if benefits, in the form of modest legitimacy and resource gains, are considered relative to costs, which will tend to be relatively low.

A fourth benefit that agencies may derive from network involvement is enhanced client outcomes. Through the integration of services, the clients of network agencies can receive a broad range of needed and coordinated services. Thus, an agency can see benefits to their clients that would not be possible when only one or two uncoordinated services are provided by any one agency. For example, an agency providing crisis services to the homeless is likely to see clients less frequently if it is part of a network that includes agencies offering a range of support services. This allows the crisis agency to devote more time and resources to a smaller pool of especially needy clients. This is the logic of the Community Care Networks, discussed by Weiner and Alexander (1998). In general, agencies will join a network if agency management believes their specific clients can be better served through the integrated services provided by network members and if the agency's services can be offered more efficiently and effectively.

Integration across Levels of Analysis

Network effectiveness is likely based on interactions across all three of the levels of analysis discussed here. Although each stakeholder group will be most concerned with effectiveness at one particular level of network analysis, it is only by minimally satisfying the needs of each group—principals, agents, and clients—that network effectiveness can be fully realized. As figure 1 shows, outcomes at each level of analysis have a direct effect on outcomes at another level. In addition, while each of the broadly defined stakeholder groups is unique conceptually, in practice they overlap so that outcomes that satisfy one group can at least partially satisfy another group. For instance, while principals, like the general public and funders, may be most concerned with network effectiveness at the community level, effectiveness at this level can only be achieved if most (although not all) individual clients are served reasonably well by network providers. Similarly, participant organizations can often enhance their survival and resource acquisition by responding to the expectations of an NAO, broker, or core agency.

Figure 1 Relationships between Effectiveness at Different Levels of Network Analysis and Influence by Key Stakeholders



At the same time, however, network effectiveness at one level does not ensure effectiveness at the other two levels. For example, one important caveat regarding organization/participant-level outcomes is that it is not the role of network administrative entities like United Way or mental health centers to enhance the well-being of individual network members. These NAOs work to satisfy their principals by enhancing community-level outcomes. Network-level effectiveness is also emphasized as the NAO strives to ensure its own survival through network growth and diversity of services. Thus, the network is considered successful if the community in general, and clients in particular, are better served by an integrated network of providers.

In addition, network success and overall client outcomes may be best achieved through actions that run completely counter to the goals of organization-level stakeholders (indicated in figure 1 by the absence of an arrow going from community-level to organization-level effectiveness). For example, a provider network may have too many small agencies to achieve the desired economies of scale in the production of a service. Under this condition, bankruptcy of several of the agencies could actually increase the network's effectiveness. In addition, the embeddedness (Granovetter 1985) of networks means that while an agency's success may be boosted by its network involvement, the agency may also be hurt as the inappropriate behavior of a few member agencies ripple throughout the system. These points illustrate the inherent tension in community service networks between the needs and expectations of community-level, network-level, and organization/participant-level stakeholders and the effectiveness measures valued by each group.

The resolution of this problem is not easy. It does mean, however, that while community networks that are successful are likely to be effective at all three levels of analysis, stakeholder needs and expectations are not necessarily consistent across levels. For instance, the community may be best served by a network that first focuses on the full range of needs of a particular client group, and then attempts to coordinate and integrate the delivery of required services through specific agencies. This may mean shifting resources away from those agencies whose services do not fit network-determined needs or that duplicate the mix of services already provided. Thus, an individual agency may be doing a good job on its own, but the particular services the agency provides may be deemed either nonessential or too costly by the network administrative organization. This network-level assessment may then force the agency to close down or shift its service focus. In this case, the NAO acts as the agent of its relevant community constituency, representing a particular set of community-level interests that are not necessarily consistent with those of some network members.

As an example of this interplay between community, network, and organization levels, some local mental health authorities have shifted funding and service priorities from residential to outpatient treatment as a cost-saving device. As a consequence, network agencies that formerly provided residential treatment have had to develop different services or go out of business. From community-level and network-level perspectives, this network could be judged successful if the shift in priorities attracted new members and resources, or if it improved client access and the quality of needed services while reducing costs. From the perspective of some individual organizational members, however, the network failed because its ser-

vice direction is now incompatible with these agencies' goals and competencies.

Sometimes, the incentive for making community- and network-level decisions over organization-level needs is based on legal mandate. For instance, one way for less powerful client groups to ensure their needs are reasonably met is to sue public agencies. Judicial takeovers of mental health, corrections, and school systems have resulted from such lawsuits in the United States. In these cases, public networks may bear the responsibility of implementing change across provider agencies in ways that clearly favor the activities of some types of providers, and some sets of clients, over others. Such legal mandates may also mean, however, that network-, organizational-, and community-level outcomes in one service domain may be substantially enhanced, as new resources flow to the network and its providers, sometimes at the expense of providers and clients in other service domains.

Conclusions

This article has emphasized that it is both reasonable and desirable to evaluate networks based on their effectiveness. We discussed the substantial difficulties associated with evaluating organizational effectiveness and indicated that, in many ways, assessing network effectiveness is even more problematic because key stakeholders and their interests are so diverse. Despite these problems, establishing whether or not a network is effective is critical from the perspectives of those organizations that make up the network, those who are served by the network, and those whose policy and funding actions affect the network.

The approach used here to evaluate network effectiveness was not to offer a list of specific and well-tested methods. Rather, three broad levels of analysis were identified that researchers, policy makers, or practicing network administrators would need to consider in determining whether or not a network is effective. Specifically, public networks can and should be evaluated at community, network, and organization/participant levels of analysis. The different views of effectiveness at each level need to be considered and resolved, especially in a system that only works effectively through cooperation.

It is important to note that public-sector networks are different from those in the for-profit world, where the financial performance of member firms is commonly seen as a viable way of assessing network effectiveness (Saxton 1997). While some stakeholders, like employees or community leaders, might argue that network goals should include their interests, the expectation of improved financial performance encourages business firms to participate in networks, even though gains might not be immediate. Pre-

sumably, the needs of other stakeholders are reasonably satisfied when performance gains are realized.

In the public sector, the needs of constituent groups are more diverse and more politicized. In particular, the rationale for public networks is most apparent at what we have referred to as the community level. Public-sector networks are most effective when they enhance the capacity of organizations to solve problems and to serve clientele. This may mean that some service providers are dropped, others are expanded, and still others shift their focus. The organizing dilemma is that networks often comprise well-established programs and organizations that may be highly resistant to change or dismantling. For a network to work effectively, the needs and interests of the people who work for and support these programs and organizations must be satisfied, while building a cooperative network of interorganizational relationships that collectively provides services more effectively and efficiently than a system based on fragmented funding and services.

A fundamental problem with any effort to evaluate public networks is that external stakeholder groups seldom exist for networks as they do for individual organizations. That is, effectiveness tends to be seen by external groups as depending on what specific service providers either do or do not do, rather than how well services are provided as a result of network activities. Stakeholders tend to evaluate, reward, or punish individual agencies, regardless of the network's role in enhancing or limiting client outcomes. Despite the prevalence of networks in the delivery of health and human services in most communities, individual organizations have constituency groups, but networks do not. Thus, the extent to which community- and network-level decisions can be made at the expense of network participants is partly political, and powerful organizational stakeholders may be able to resist community- and network-level pressures. If constituency groups are active at the network level, it is often through a coalition of agencies, like a human services coalition, that protects and expands funding for human services in legislatures and city councils.

Despite these problems, networks funded by the public sector can and should be evaluated. While there will be disagreement about goals and methods, public-sector networks cannot be evaluated solely on sustainment of particular programs, agencies, or network forms. Rather, the task for network organizers is to minimally satisfy the needs and interests of stakeholders at network and organization levels, while emphasizing the broader needs of the community and the clients the network must serve.

Community value may be created by providing clients with improved access to services, enhanced utilization, reduction in unneeded services, lower overall costs, enhanced client satisfaction, and improved outcomes. These,

in turn, will make the community a more productive and viable place to live. The advantage of public-sector networks is that many of the individuals who are employed by network organizations are professionals, with values and commitment to clients and the public good that often outweigh their commitment to specific programs or organizations. Thus, organization- and network-level effectiveness criteria can be mostly satisfied by focusing on community-level goals. Service-delivery networks must be built and maintained at the organization and network levels, but overall network effectiveness will ultimately be judged by community-level stakeholders.

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References

- Agranoff, Robert. 1991. Human Services Integration: Past and Present Challenges in Public Administration. *Public Administration Review* 51(6): 533–42.
- Alter, Catherine, and Jerald Hage. 1993. *Organizations Working Together*. Newbury Park, CA: Sage Publications.
- Axelrod, Robert. 1984. *The Evolution of Cooperation*. New York: Basic Books.
- Bolland, John M., and Jan V. Wilson. 1994. Three Faces of Integrative Coordination: A Model of Inter-Organizational Relations in Health and Human Services. *Health Services Research* 29(3): 341–66.
- Deming, W. Edward. 1986. *Out of the Crisis*. Cambridge, MA: MIT.
- Derthick, Martha. 1970. *The Influence of Federal Grants*. Cambridge, MA: Harvard University Press.
- Fama, Eugene F., and Michael C. Jensen. 1983. Separation of Ownership and Control. *Journal of Law and Economics* 26(2): 301–25.
- Fountain, Jane E. 1998. Social Capital: Its Relationship to Innovation in Science and Technology. *Science and Public Policy* 25(2): 103–15.
- Freeman, Robert Edward. 1984. *Strategic Management: A Stakeholder Approach*. Boston, MA: Pitman Publishing.
- Granovetter, Mark S. 1985. Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology* 91(3): 481–510.
- Jennings, Edward T., and Jo Ann G. Ewalt. 1998. Interorganizational Coordination, Administrative Consolidation, and Policy Performance. *Public Administration Review* 58(5): 417–28.
- Laumann, Edward O., and David Knoke. 1987. *The Organizational State*. Madison, WI: University of Wisconsin Press.
- Lawless, Michael W., and Rita A. Moore. 1989. Interorganizational Systems in Public Service Delivery: A New Application of the Dynamic Network Framework. *Human Relations* 42(12): 1167–84.
- Lehman, Anthony F., Letitia T. Postrado, Dee Roth, Scott W. McNary, and Howard H. Goldman. 1994. Continuity of Care and Client Outcomes in the Robert Wood Johnson Foundation Program on Chronic Mental Illness. *Milbank Quarterly* 72(1): 105–22.
- Levine, Sol, and Paul E. White. 1961. Exchange as a Conceptual Framework for the Study of Interorganizational Relationships. *Administrative Science Quarterly* 5(4): 583–601.
- Mandell, Myrna P. 1984. Application of Network Analysis to the Implementation of a Complex Project. *Human Relations* 37(6): 659–79.
- Milward, H. Brinton, and Keith G. Provan. 1993. The Hollow State: Private Provision of Public Services. In *Public Policy for Democracy*, edited by Helen Ingram and Steven Rathgeb Smith, 222–37. Washington, DC: Brookings Institution.
- Milward, H. Brinton, and Gary L. Wamsley. 1985. Policy Subsystems, Networks and the Tools of Public Management. In *Policy Implementation in Federal and Unitary Systems*, edited by Kenneth Hanf and Theo A.J. Toonen, 105–30. Dordrecht, Netherlands: Martinus Nijhoff.
- O'Toole, Laurence J. 1997. Treating Networks Seriously: Practical and Research-Based Agendas in Public Administration. *Public Administration Review* 57(1): 45–52.
- Provan, Keith G., and H. Brinton Milward. 1995. A Preliminary Theory of Network Effectiveness: A Comparative Study of Four Community Mental Health Systems. *Administrative Science Quarterly* 40(1): 1–33.
- Provan, Keith G., Janice M. Beyer, and Carlos Kruytbosch. 1980. Environmental Linkages and Power in Resource-Dependence Relations between Organizations. *Administrative Science Quarterly* 25(2): 200–25.
- Putnam, Robert. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press.
- Ring, Peter S., and Andrew H. Van de Ven. 1994. Developmental Processes of Cooperative Interorganizational Relationships. *Academy of Management Review* 19(1): 90–118.
- Saxton, Todd. 1997. The Effects of Partner and Relationship Characteristics on Alliance Outcomes. *Academy of Management Journal* 40(2): 443–61.
- Scott, John. 1991. *Social Network Analysis: A Handbook*. London: Sage Publications.
- Smith, Steven Rathgeb, and Michael Lipsky. 1993. *Nonprofits for Hire*. Cambridge, MA: Harvard University Press.
- Warren, Roland L., Steven M. Rose, and Ann F. Bergunder. 1974. *The Structure of Urban Reform*. Lexington, MA: Lexington Books.
- Wiewel, Wim, and Albert A. Hunter. 1985. The Interorganizational Network as a Resource: A Comparative Case Study on Organizational Genesis. *Administrative Science Quarterly* 30(4): 482–96.
- Weiner, Bryan J., and Jeffrey A. Alexander. 1998. The Challenges of Governing Public–Private Community Health Partnerships. *Health Care Management Review* 23(2): 39–55.