

Redundancy in a Community Corrections Network: Testing the Role of Service-Provider Redundancy in
Missouri's Community Correction Implementation Network

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Introduction

Networks have become the preeminent paradigm in the policy implementation literature. Policy implementation networks are vast arrays of organizational communities that are created or formed to implement various types of policy. Scholarship in the network implementation landscape has focused on the structure and performance of networks in comparison to hierarchical-organizational style implementation. In general, networks are complex and uniquely specific to the policy being implemented – performance measures for these networks are thus as complex and unique.

Despite the breadth and nuance of the existing literature on network implementation, the concept of redundancy has yet to be adequately addressed in this scholarship. Redundancy has been discussed in many different policy arenas and each result has produced differing conclusions about its role in implementation. Traditionally, redundancy has played an important role in creating performance gains for specific policy implementation networks. In recent years, scholars have challenged this broad notion by qualifying it with caveats about network structure and communication differences that can affect how redundancy affects performance. These caveats are the result of differences across levels of decentralization in the network environment.

This study will focus on the potential impact of redundant service provision and duplicate structures in community corrections networks. These are networks that provide services and goods for offenders upon their release from prison and to overcome the many barriers to successful reentry highlighted in the massive literature on corrections and recidivism. These hazards result from a number of different problems that are the result of social and institutional shortfalls. Essentially, successful re-entry is dependent on an offender's ability to avoid the environmental and circumstantial problems that led to his or her initial incarceration. The

corrections landscape as evolved to meet the changing needs of offenders while dealing with problematic political atmosphere of providing services to criminal.

The diverse set of service providers and the fragmented nature of the service assignment process in community corrections create significant opportunities for redundancy, as clients are sometimes referred into numerous programs that provide the same service. This provides an ideal opportunity to explore broader questions regarding the impact of redundancy on the performance of public service delivery networks. Does redundancy increase performance by ensuring through repetition that needed services (in this case, life-skills, job training, addiction treatment, anger management, etc...) are really received by clients? In other words, does it keep clients who may not receive everything they need from a single exposure to a program from falling through the cracks? Or, alternatively, does redundant service provision decrease the performance of network implementation because clients miss out on services they really need because they are needlessly assigned into repetitive programs? In other words, when a parole officer unknowingly refers an offender into a redundant program, is he or she increasing the likelihood of recidivism by failing to expose that offender to another type of service from which they may have benefitted? As a final alternative, we might imagine that in a “sticky” problem like recidivism, redundancy makes little difference positive or negative, but ends up costing taxpayers twice as much as non-redundancy for the same result.

This thesis will explore the likelihood of these outcomes in an examination of the role of redundancy in the Missouri community corrections networks and its effect on the performance and effectiveness of these networks. The Missouri community corrections network is divided into two sets of duplicate service providers – government and nonprofit. This network provides a diverse set of services designed to accommodate the needs of offenders during their incarceration

and upon their release from prison. These services range from basic-needs providers to employment training and life skills programming.

I collected data from numerous sources in order to explore the impact of redundancy in networks. The Missouri Department of Corrections provided crucial information about government program enrollment and parole and probation assessment results. In order to develop data on enrollment in nonprofit service providers, data was obtained by the Truman School Institute of Public Policy at the University of Missouri through surveys administered by the nonprofits. The service providers were also profiled and categorized by their online applications to receive grants from the Department of Correction. From this data, several variables were identified as more important than others. Revocation, the key dependent variable, is a measure of parole compliance that can be equated to recidivism. The redundancy measure was created from a content analysis of the nonprofit online applications and a comparison with government programs. Several variables mentioned throughout corrections evaluation literature such as prior incarceration, substance abuse, marital status, race, and education were used as controls. Using revocation as a performance measure, the program redundancy variable should highlight any gains in network performance from duplicate services. The results suggest that redundant services, contrary to redundancy literature, do not provide the same level of performance gains that non-redundant complimentary service can provide.

Exploring Redundancy in Networks

Despite the recognition that implementation often takes place in networks, and the well developed body of literature that has grown from that recognition, scholars have not sufficiently explored the impact of redundancy on network performance. This is surprising for a number of reasons. First, the impact of redundancy, or duplicate service provision by competing units or

agencies, has been a salient topic in the literature on hierarchical implementation for decades. Second, despite the volume of research in the area, which I briefly review below, there is no clear consensus on whether that impact is typically positive or negative.

Finally, given the decentralized nature of both provider and consumer recruitment in many implementation networks, the opportunities for redundancy in function is likely to be considerably higher in that setting than in the more traditional hierarchical setting where the topic has previously been explored. These redundancies may arise because multiple principals may be able to access and demand services from the network and they may be unaware that other principals have made redundant requests for certain clients. Alternatively, providers or agents within the network could have an information asymmetry and simply not know other agencies are replicating their work. Finally, agencies might willingly reproduce other agencies work in order to provide a level of safety or assurance or in order to gain access to additional resources.

The concept of redundancy in public policy literature was first addressed by Martin Landau in 1969 in his seminal piece “Redundancy, Rationality, and the Problem of Duplication and Overlap”. Landau suggested that redundancy in the sense of policy-created overlapping services could increase the performance of the duplicate agencies. These results were supported by Landau’s predecessor Downs in 1967. Downs’ piece provided the guidelines for bureaucratic competition among redundant peers.

“Downs (1967:200–202) claims that enhanced organizational effectiveness arising from competition occurs when (1) both the initial and redundant bureaus obtain resources from the same budgetary authority; and also that (2) rival bureaus must be sufficiently distant from one another so that (i) threat of retribution in each agency is low since they are not likely to be members in the competing agency in the (near) future, and (ii) do not exhibit

strong loyalty to the same higher bureau”(Krause and Douglas, 2003 quoting Downs, 1967).

Thus, both Downs and Landau’s results support an increase in the effectiveness of the bureaus due to an increase in the reliability of the services (Downs, 1967 and Landau, 1969). Many other scholars built upon the central components of Downs’ and Landau’s research. Miranda and Lerner’s 1995 discussion of redundant competition extended the theory of redundancy beyond increased effectiveness. Benchmarking, discussed by Miranda and Lerner, allows for principles in the principle/agency relationship to overcome information gaps (Miranda and Lerner, 1995). The information gaps are created by numerous shortfalls in communication networks between the principle and agency. Benchmarking creates standards for redundant competing agencies and thus allows the principle to judge said agencies.

Others have refuted a general acceptance of the increased effectiveness of redundant-competitive agencies. Krause and Douglas support a theory described as adverse reputational herding (Krause and Douglas, 2003). Adverse reputational herding is posited as – “When a parallel (redundant) agency performs at the same or lower level compared to an initial agency did before the former bureau’s creation, the initial bureau will play to the level of its competition by either exhibiting no change or a reduction in task performance quality” (Krause and Douglas, 2003). The core of their argument hinges on the information asymmetry and the development of performance over time in comparison to the initial agency. Krause and Douglas are not the only scholars that doubt the universality of improved effectiveness and performance of redundancy-based competitive agencies. Ting discusses the limits of redundancy-based competition by modeling agencies in redundant systems (Ting, 2003). Using a formal model, he demonstrates

that a redundant system needs agencies to retain the same policy and implementation preferences as the principal to maintain an effective relationship (Ting, 2003).

As noted above, redundancy has yet to be fully explored in the context of networks, but it is possible to borrow insights in order to develop expectations about potential impacts. For example, it is possible that, as in hierarchical scenarios, redundancy in networks provides a safety 'catch' that reduces the amount of clientele that could be lost, mismanaged or shirked by other agencies (Heimann, 1993). Thus, redundancies may serve to increase efficiency and reduce the level of errors or mistakes thus lowering costs (Landau, 1979) (Heimann, 1995). At the same time, agency redundancy may simply result in resource distribution to multiple agencies that are serving the same clients with little (or insufficient) performance gain to show for the duplication. This situation may be particularly problematic for implementation networks, which research suggests voters may already see as an inefficient and unnecessary part of the bureaucratic machine (Miranda and Lerner, 1995).

Networks and Networking

Policy implementation in networks presents a difficult challenge for scholars to examine. Policies are uniquely implemented in a number of different novel fashions. Networks represent a politically expedient path for policy implementation, which requires less government involvement, reduces politicians' electoral ties to the process of implementing policy and creates opportunities for private agencies, for-profit and nonprofit, to engage each other to create solutions for or to manage societal problems. Networks, themselves, are essential for the development, processing, and finally implementation of policy. Organizations generally develop a series of relationships that facilitate the generation of knowledge which allows information to be shared across organizational boundaries, creates innovations and implements policy in an ad

hoc manner (Agranoff, 2007). These relationships are governed by different attributes of the implementation network – centrality, embeddedness, and ultimately effectiveness; all of which are crucial in understanding the many working parts of an implementation network.

The concept of implementation networks is similar to more commonly examined public management networks. Public networks are defined by Agranoff as “collaborative structures that bring together representatives from public agencies and NGOs to address problems of common concern that accrue value to the manager / specialists, their participating organizations, and their networks” (Agranoff, 2007 p. 3). At the heart of network literature is the process of addressing problems that range from the development of information to the implementation of best evidence practices. Unlike departments within a hierarchical organization, organizations with niche skills develop unevenly, sometimes independently and can be crucial in implementation across a number of different organizations within a network (Agranoff, 2007). O’Toole differentiates networks from other implementation processes such as hierarchies and perfect markets (O’Toole, 1997). The differences between networks and other forms of implementation practices are the result of the elasticity of networks. Elasticity is the ability to incorporate changing and perhaps innovative implementation practices.

Each network is different in its functioning and structure, but at the heart of every network is a shared sense of morals, values, and goals (Provan and Milward, 1991) (Galaskiewicz and Wasserman, 1989). That shared sense of community within a network provides legitimacy and shared generalizability to the missions of service providers within the network (O’Toole and Montjoy, 1984). Both legitimacy and a common sense of values reduce transaction costs between organizations within a network (Provan and Milward, 2001). Transaction costs are created by organizational barriers that are essentially part of all interactions

between organizations (Provan and Milward, 1998) (Brown and Potoski, 2006). These barriers in implementation networks are cause for concern because they arise from tensions over service and service delivery methods. Network interactions, like the network themselves, are as varied as the issues they are designed to alleviate.

Despite the relatively decentralized nature of network implementation, research suggests that service providers are often organized around and directed by some type of central authority. According to Provan and Milward, implementation networks, generally, need an authority to direct or guide the network (Provan and Milward, 1998). Resources in a policy implementation network are distributed throughout the network to incentivize organizations to achieve the goals/outcomes in the most efficient possible way (Provan and Milward, 1998) (Provan and Milward, 1991). Provan and Milward developed a concept about authority positions in networks that is essentially an applied form of the principle-agent model. The network authority organization (NAO) acts as a principle directing the network through resource allocation (Provan and Milward, 1998).

Implementation Network Categories and Structures

Policy implementation networks are as varied as they are numerous. Each network consists of different relationships and employs different methods of interactions. This is fitting because networks are considered innovative and adaptive due to their ability to address specific circumstances policies are designed to alleviate (Agranoff, 2007). The decentralized nature of most implementation networks is the result of nuances in communication, network structure, and the policy - all of which can create any number of different network types. Agranoff describes four different types of networks: action, developmental, informational and outreach networks (Agranoff, 2007). The difference between network types depends heavily on the functions and

structure of the network. As Agranoff relates – “...it is impossible to treat all networks alike” (Agranoff, 2007 p. 10).

Network interactions in themselves are essentially a form of organizational interdependence (O’Toole and Montjoy, 1984), the nature of which helps to determine their structure. Implementation networks need interdependence to function by providing a common discourse among agency peers and with their network authority. Interdependence helps in the creation of innovations and aids in the flow of ideas and information regarding changes in the clientele bases or in the dimensions of the network (Provan and Milward, 1991) (Smith and Smyth, 1996). Innovations, spurred by both exogenous and endogenous stimuli, can also alter network structures. There are many different variations of network interactions and innovations, but Provan and Milward categorize them by market-based resource differentials such as monopoly and monopsony. These categorizations make perfect sense being that implementation networks are heavily affected by resource allocation from the network administrative organization. Provan and Milward claim that most implementation networks work in the fashion of a monopsony – a network in which a NAO is surrounded by too many agents (Provan and Milward, 1998).

Concepts for Understanding Networks

Centrality

The relationships between the principle, or primary node, and the other organizations in a network can manifest in many different ways. The dynamics between the principle, described by Provan and Milward as the network administrative organization and the surrounding agencies is best explained in terms of centrality. Centrality describes the level of interaction within the network by an individual agency (Banaszak-Holl, Allen, and Schott, 1998) (Friedkin, 1991)

(Ballester, Calvo-Armengol, and Zenou, 2006). The higher the levels of centrality an agency exhibits the greater its level of activity and possibly importance to others in the network. Centrality indicates the level of authority the NAO uses to direct the implementation of policy throughout the network.

Each implementation network has different levels of centrality. Decentralized implementation networks, such as substance abuse treatment provider-networks in North Carolina, depend more heavily on network communication and collaboration than their more centralized counterparts (Smith and Smyth, 1996). The measure of centrality is key in understanding implementation networks simply because it highlights “who’s in charge” or “who has the most say” in an arena full of different actors. There are many different environmental circumstances that contribute to an agency’s centrality or lack thereof. Most are primarily dependent on the level of resources given to the implementation network and the problem which it has been charged to remedy (Smith and Smyth, 1996).

Implicit in the discussion of centrality is the competing concepts of top-down and bottom-up authority in implementing public policy (O’Toole, 1997). A top-down perspective assumes that policy is directed by organizational or governmental elites (Hupe and Hill, 1988). Conversely, bottom-up implementation theories posit that street-level bureaucrats modify and direct implementation of policy (Lipsky, 1980). Approaches that stress the importance of centrality implicitly adopt a top-down approach (see Provan and Milward), while those that stress communications among non-central nodes emphasize a bottom-up approach. Regardless of the approach, understanding the competing concepts of centrality is important for understanding network differences. Differences in centrality concepts vary across different policy network types and across networks themselves.

Classifying network centrality in an overall manner could overlook different relationships between different matrices of nodes. Implementation networks consist of different matrices of centrality. Each matrix is a cluster of organizations that are grouped together due to common practices or locations. These matrices differ within networks due to personal interactions, resource allocation, or socio-political environmental differences (Friedkin, 1991). Agranoff speaks of the nuances in communication and structure that create different types of networks -- perhaps these same nuances create varying degrees of centrality throughout the network with some clusters of nodes being closer to the NAO than others (Agranoff, 2007). Each network builds an organic model of centrality from these different matrices that are built from synthesized models of top-down, bottom-up, principle-agent and general networking theories to implement policy in a fashion that best fits that network. Understanding the concepts of centrality is useful for assessing the effects of redundancy on the performance of a network.

Embeddedness

The concept of embeddedness is an important tangent of centrality, though defining embeddedness is something of a difficult task. Indeed, much of the literature regarding networks and embeddedness shies away from developing a concrete assertion of the term. Generally, it is thought of as “the degree to which actors are involved in cohesive groups” (Moody and White, 2003 citing Granovetter, 1992). This definition only extends the ambiguity further by leaving the term ‘cohesive’ undefined and unlimited. Clearly, there are some parameters to the concept of cohesiveness which delineate those in the group and those who are not. For the sake of this project, I will define cohesiveness as a network’s sense of shared values, morals and goals (Provan and Milward, 1991) (Galaskiewicz and Wasserman, 1989).

Embeddedness is a central process-related indicator of an implementation network because it highlights the level of interaction among agencies. Interaction, of course, is not the only method of success for implementation networks, but it does allow for a greater flow of information which could lead to a greater flow of resources (Lubell and Fulton, 2007). The problem with measuring a concept such as embeddedness is that it can manifest itself in a latent fashion. This problem is especially troublesome in service-provider networks. Latent embeddedness is the concept that informal involvement can mean practically any human interaction (Cornwell and Harrison, 2004). Given that human interactions in networks can vary, in all imaginable terms, infinitely, it is clear that latent embeddedness can be tough to measure. As far as implementation networks are concerned, latent embeddedness would be of concern only if there were some extended informal involvement across service providers.

Each implementation network is apt to have a different level of embeddedness, as would each individual service provider. As with the measure of centrality, embeddedness is a fairly subjective measure. Embeddedness can directly be associated with centrality by other means as well. The more embedded an agency is, the more likely they are to be involved with the authority in the network because they are trusted (Hindmoor, 1998) (Klijn and Koppenjan, 2000). A deeply embedded agency is more likely to have lowered the transaction costs between them and other agencies, as well as the NAO by developing trusting relationships from extensive interactions (Hindmoor, 1998).

Implementation Network Effectiveness

Any true investigation of an implementation process, be it a network or otherwise, is not complete without some exploration of effectiveness. Effectiveness, in terms of an implementation network, can be defined as the degree to which agencies within the network

implement a policy successfully (Provan and Milward, 2001). There are various levels according to Provan and Milward that each need to be examined individually in order to adequately assess the effectiveness of a policy implementation network. Each level is beholden to different groups of stakeholders that have different definitions of effectiveness. By dividing a network into segments, the relationships between agencies become clearer and thus easier to understand. The three levels that Provan and Milward use are community, network, and organizational/participant. The community level of analysis encompasses the widest pool of actors and, in terms of effectiveness, is best highlighted by measures of social capital (Provan and Milward, 2001). The next level of analysis focuses on the network and its internal relationship structures using network strength and “multiplexity” which is Provan and Milward’s term for embeddedness (Provan and Milward, 2001). Their final level of analysis that Provan and Milward use to determine policy network effectiveness is the most narrow – the organizational/participant level. At this level, the key actors are the agents and clients in the network and the best effectiveness criteria are based on an evaluation of the agencies (Provan and Milward, 2001) (Ethridge and Percy, 1993).

By analyzing three levels of network effectiveness, it becomes clear that because networks are a complex conglomeration of different stakeholders, measuring effectiveness has to be tailored to each specific level to truly understand the overall effectiveness of the network. Evaluation of agencies in implementation networks are the measurements of understanding service provider outcomes and outputs, but they only capture one segment of how the network operates.

So, implementation networks might be investigated with a focus on centrality, embeddedness, and/or effectiveness. Each avenue of investigation in implementation networks

could possibly end with effectiveness as the most applicable destination. Centrality and embeddedness are key performance variables that can aid in the understanding of what is or is not effective policy implementation. Effectiveness is the primary concern of this research. The community corrections implementation network in Missouri is diverse with many boundary spanning organizations that have selectively oriented their services to specifically address the problems of re-entry. They are of special interest because of the ease of measuring effectiveness through recidivism and the dual system of service-providing organization that provides an opportunity to explore the impact of program redundancy on the effectiveness of network implementation, which has not been done before.

Empirical Tests in Community Corrections

According to the Pew Research Center on the States, in 2008 nearly 2.3 million Americans are in prison across the country (Pew Research, 2008). The United States has more incarcerated than any other country in the world – 750 per 100,000 (Pew Research, 2008). The number of incarcerated and supervised has grown substantially since the late 1970s and early 1980s (Pew Research, 2009). Many scholars have associated the increase in prison populations with the increased availability of drugs and the reactionary “War on Drugs” which was accelerated during Reagan’s first term (Petersilia, 2003) (Ross and Richards, 2009) (Moore, 1996).

States with higher crime rates have higher incarceration rates (Pew Research, 2008). Crime rates across the United States increased dramatically in the late 1970s and 1980s and have since leveled off in the late 1990s and early 2000s. At the same time, prison numbers have steadily risen over the past two decades and have only recently leveled in the past year (Pew Research, 2010). Owens and other scholars suggest incapacitation as means to lowering crime rates (Owens, 2008). The connection between incarceration rates and crime rates is debatable.

One of the more important findings in literature on incapacitation surrounding correlations between crime and incarceration is that at some point gains of lowered crime rates are diminished by higher incarceration rates (Liedka, Piehel, and Useem, 2006).

The Societal Impact of Incarceration

Communities are adversely affected by incarceration. Without valuable assets such as an employable population and potential customers, neighborhoods become economic shells that attract crime and other forms of delinquency that further the cycle of incarceration (Thompson, 2004). Incarceration rates disproportionately burden minority communities. Black and Latino communities face higher levels of incarceration and supervision in comparison to Caucasians (Pew Research, 2008).

Families are the most direct link to the outside world while an offender is incarcerated. Offenders that are more involved with their family are less likely to abscond from parole or probation (Visher and Travis, 2003). During incarceration, the family of an inmate is burdened with a loss of income, transportation to and from prisons, responsibility and appropriate care of any children, and the stigma of having a loved one in prison (Jorgenson, Hernandez and Warren, 1986). But in the end a healthy (or at the very least) positive level of interaction can reduce the probability that an inmate will recidivate given certain crimes (Jorgenson, Hernandez, and Warren, 1986) (Lee 2005), (Travis and Petersilia, 2001). Children of incarcerated parents can develop emotional and social problems that can put them at odds with their peers - becoming three to six times more likely to exhibit delinquent behaviors when they are older (Sack and Seidler, 1978) (Lee, 2005). Hagan and Dinovitzer make the argument that given a majority of circumstances, the net effect of incarceration is usually negative for children due to increased levels of family dysfunction and stigmatization (Hagan and Dinovitzer, 1999).

The Evolution of Correctional Policies

The structure of corrections in the United States varies across the country, with each state utilizing different philosophies of rehabilitation, retribution and containment. Rehabilitation was the most popular corrections philosophy across the country up until the late 1970s and during the era of rehabilitation most states used indeterminate sentencing and powerful parole boards. Following the widespread acceptance of Robert Martinson's paper "The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies" the "nothing works" movement in corrections policy effectively eliminated much of the concept of rehabilitation from state policy circles (Cullen, et al. 2007) and correctional policies veered toward what can be described as incapacitation, retribution or containment.

The emphasis on determinate sentencing and technical violations during this period contributed to the rapid rise in incarceration rates. The "truth in sentencing" movement began in the early 1990s and "by the end of 1998, fourteen states had abolished early release by a parole board for all offenders, and several others had restricted its use" (Petersilia, 1999). The percent of convicted persons returned to prison for technical violations of parole or probation have increased by 18% during the same period (Travis and Visser, 2003). Technical violations have been cited by many different scholars as a possible reason for the skyrocketing levels of inmates (Travis and Petersilia, 2001).

Since the late 1990s, however, corrections philosophy has begun to change. States have been developing newer alternative sentencing guidelines and supervision tactics. These new developments are driven by current research showing that recidivism has not changed in the face of harsher and stricter sentencing laws. Community corrections methods are alternative forms of corrections that are based on the assumption that low risk offenders are more apt to recidivate

when punished by harsher means and that offenders in general will respond more positively to treatment in a community setting (Dean-Myrda and Cullen in Petersilia, 1998) (Petersilia, 2003) (Ross and Richards, 2009).

Community corrections has also been shown to be a less expensive alternative to imprisonment (Pew Research, 2008). The cost of developing, maintaining and staffing prisons has grown almost in unison with the boom in inmate populations (Pew Research, 2008). When comparing the price of building new prisons with that of expanding probation, parole and community corrections service providers, the community corrections network can provide equally effective methods of reducing recidivism through advanced supervision and counseling techniques (Wilhelm and Turner, 2003). For example – Pew Research Center on the States reports that in the 33 states surveyed the average cost of imprisonment per inmate a year was \$29,000 compared to \$2,750 per parolee per year for community corrections (Pew Research, 2009).

Actors in the Community Corrections Network

Community corrections approaches are implemented, by necessity, in a network and numerous actors and organizations play an important role in the success (or failure) of these efforts. These actors are from numerous sectors and include governmental entities such as parole officers, nonprofit and faith based organizations, and quasi-governmental entities, such as police support and outreach groups.

Parole officers are the direct connection between the system and offenders after their release into the public. Parole officers have the duty of referring inmates to service providers upon their release. This referral process greatly determines the role of any given service provider in the community corrections network. Parole officers are not the only referral method, some

service providers use an application process which is administered during the offender's time in prison and, on occasion, judges will also refer inmates to particular providers that have the ability to deal with special circumstances.

Employment training and placement organizations are also key players in the effort to reduce recidivism by re-integrating former inmates into society. Long-term employment is cited by many different scholars as the best remedy for recidivism and successful re-integration (Petersilia, 2003) (Ross and Richards, 2009), (Visher and Travis, 2003), (Travis and Petersilia, 2001), (Clear, Rose and Ryder, 2001), (Gaes, Flanagan, Motiuk and Stewart, 1999). Service-providers aid clients with job search tools, resume building classes and training materials in order to help them get lasting jobs. Some providers go so far as to create employment for their clients in order to keep them from falling back into the same cycle of crime. These services require providers to have specialized training and education that build capacity and create a more professional atmosphere that can increase the efficiency of the service providers (Worth, 2009). The types of service providers in community corrections networks vary from network to network, but mostly consist of nonprofits and faith-based organizations.

Alternative service providers fit certain niches within the community corrections network that are overlooked by other larger service providers in the network. The state government also allocates resources to local governments to set up re-entry services on a county-wide level. These organizations are referred to in nonprofit literature as quasi autonomous-nongovernmental organizations or QUANGOs. QUANGOs are defined as "organizations which as their main task, are charged with the implementation of one or more public policies, and which are funded publicly but operate at arm's length of the central government, without an immediate hierarchical relationship existing with a minister or a parent department"(Bertelli, 2005 quoting Van Thiel,

2001). QUANGOs in the community corrections networks are expansions of other services in the human services sector. For example, QUANGOs have been one of the main implementation tools used by state governments to provide welfare services (Szanton, 1991). QUANGOs are more flexible than government service providers so the transition to providing essentially the same services to former inmates would be smooth and effective.

Non-governmental service providers free up resources that would be difficult for the department of corrections to allocate properly due to enormous caseloads that the department of probation and parole already manages. Most service providers in community corrections networks acquire grants and other forms of resources from the state and federal government. The government provides the environmental constraints that restrict service providers and keep them accountable to their stakeholders and the taxpayers that fund them through grants (Blau and Rabrenovic, 1991). Given that the boundaries between the community corrections network and government entities are fairly pervious, there are dangers of over-extension on both sides. One extreme is the possible government intrusion into the community corrections network that could result in a ‘crowding out’ effect (Brooks, 2000). The ‘crowding out’ effect is the result of public spending for particular providers ‘crowding out’ private donations and thus making service providers almost wholly dependent on the government for resources (Brooks, 2000). Essentially, the ‘crowding out’ effect creates in some respects a QUANGO- like entity. Many service providers in community corrections networks are QUANGOs or QUANGO-like organizations due to the considerable challenges of raising funds for providing services for former offenders.

Missouri’s Correctional Landscape

Missouri has over 30 thousand prisoners in its correction system (Pew Research Center, 2008). In comparison to the rest of the country, only 14 other states have higher numbers of

inmates in the United States (Pew Research Center, 2008). To gain even more perspective, Missouri has approximately the same the number of inmates as the entire country of Australia (World Prison Brief, 2010) (Missouri Department of Correction, 2009). Only examining the number of incarcerated in Missouri ignores the numbers of offenders under the supervision of parole and probation. In Missouri, nearly 70 thousand offenders are under the supervision of the Missouri Department of Parole and Probation, doubling the number behind bars (Pew Research Center, 2009).

Missouri's community correction implementation network is a cross-sectoral network that consists of private, nonprofit organizations and government service providers. Missouri began restructuring their corrections system in 2003. The goal of the restructuring was to create a streamlined and effective system that reduces the bureaucratic tangle of assessment, home planning, and other transitional processes and at the same time increases public safety by reducing recidivism (Parents and Barnett, 2004). The corrections restructuring efforts dubbed Transition from Prison to Community Initiative (TPCI) were the result of the incorporation of best evidence practices developed by the National Institute of Corrections, Abt Associates and state governments across the United States (Parents and Barnett, 2004).

Missouri was one of the first states to begin the transition process in 2003, and one of the more important changes to the state's system was the creation of Transition Accountability Plans (TAP) (Parents and Barnett, 2004). TAPs are the most important sources of information for service providers in community corrections networks. They provide information about assessment and home planning. In Missouri, the assessment program is called the Field Risk Reduction Instrument (FRRI). Home plans, another essential part of a TAP, are developed by an offender under the supervision and direction of parole officers. Offenders and parole officers

work to determine where the offender will live if they have the option, if they will be allowed to live with family members, employment options and other parameters and conditions of their parole. Service providers in Missouri's community corrections network use these tools to better serve their clients.

Part of Missouri's goals in reforming the state's corrections system was to integrate communities around the state into the corrections network. Studies have continually shown that positive community reinforcement increases the likelihood that an offender will not re-offend (Travis and Petersilia, 2003) (Ross and Richards, 2009) (Petersilia, 2003) (Dean-Myra and Cullen, 1998) (Bryne and Miofsky, 2009). In order to encourage local communities and service providers to become more involved in the community corrections implementation network, the Missouri Department of Corrections has allocated 3.8 million dollars via grants to private, nonprofit service providers (Missouri Department of Corrections, 2009). These providers have many different links to the communities in which they serve. They are a contrast to the government programs that are implemented during the offender's prison stay and transition to parole. In Missouri, the TPCI reforms created specialized transition facilities for offenders getting close to their release dates. These facilities, called transitional housing units (THUs), are where a majority of the government-provided services are administered. The development of THUs has steadily spread to all the prisons in the state of Missouri (Missouri Department of Corrections, 2010).

Both the government and private nonprofit service providers focus on providing essential resources to parolees in several different forms. Primarily, service providers in the community corrections network focus on developing the offender's capacity to keep and maintain a steady, respectable job. Long-term employment may be the goal of many service providers, but in order

to become employed, offenders often need many basic essentials that range from food and clothing to various forms of identification and transportation. Addiction and substance abuse, which may have landed the offender in prison, are treated by many different programs throughout incarceration and afterwards by long-term aftercare programs for those who continue to struggle with their addictions after prison. Many programs, such as the government-ran Pathways to Change and the nonprofit organization Provident, attempt to provide services that help to re-orient offenders' attitudes and behaviors by introducing them to newer and more positive techniques for coping with challenges. The development and use of cognitive behavioral programs has been shown to reduce recidivism in various studies of community corrections and institutional treatment (Cullen and Gendreau, 2000) (Lipsey, Landenburger and Wilson, 2007). Different types of services are have different levels of effectiveness and thus can be affected by redundancy in numerous ways.

Data

Determining if redundancy can provide performance gains requires a system of dual service providers that replicate each other's services. In this research, the dual system of service providers is created from a singular source of revenue provided from the state of Missouri to the Department of Corrections. The government-provided services are provided during an inmate's stay in prison and THUs. Government program enrollment, in some cases, is mandated by law requiring substance abusers to attend some form of treatment such as REACT. In contrast, nonprofit service providers recruit voluntarily from prisons, but most parolees are required to attend some form of aftercare during their tenure on parole. Convicted persons may end up in a duplicate or redundant after-care program either because they were mandated to attend by a corrections official (judge or parole officer), because they were recruited into the program by a

service provider, or because they self-selected into the program. These varied sources of program enrollment reduce the likelihood of selection bias in the results and on observable characteristics there are no significant differences between those in redundant programs and those receiving non-redundant or complimentary services. The total number of respondents in the data set is $n = 2,089$ offenders that have been convicted of some crime and have been sentenced to some form of correctional supervision: prison, parole or probation.

Dependent Variable - Revocation

By far the most important variable in this research is the measurement of recidivism. The simplified measure of recidivism used in this paper is actually a measure of parole or probation revocation. Revocation in these data is a dichotomous variable which shows whether the offender has broken any conditions of his or her parole or has committed a new crime. Parole revocation as the dependent variable is considered by many scholars (Travis and Petersilia, 2001) (Petersilia, 1999) as a legitimate performance measure in both corrections and community corrections literature. Of course, using parole/probation revocation as the primary indicator of program performance does not adequately capture all of the dimensions of success or failure for a program. For example, the differences a re-entry program could make could be more cognitive and ethereal and therefore may not affect environmental constraints or circumstances that induce offenders to re-commit crime. But for the sake of this research, revocation is the most plausible measurement of the effectiveness of nonprofit and government re-entry programming.

Independent Variables - Redundancy Measures

Redundancy is the primary independent variable in this research. To begin with, the nonprofit organizations were categorized by the services they provided into 10 different categories. The nonprofit organizations' grant applications were used to determine their primary

services. Using content analysis techniques, all of the nonprofits fell into at least one of the categories. The 10 categories were coded as employment (1), housing (2), transportation (3), sex offender treatment (4), substance abuse treatment/ education (5), cognitive behavioral therapy and counseling (6), identification (7), domestic and financial training (8), basic needs services (9) and comprehensive services (10). The content analysis results were based on the first complete and thorough mention of these services in the program design segment of the nonprofits' grant applications. The results from the organizational content analysis were coded into a variable called nonprofit service type. The two largest categories were comprehensive programming with 11 program entries and employment with nine. The process of content analysis in this paper was conducted to classify each organization into a category that could be used to create a measure of redundancy and therefore no measure of reliability was created – which could be considered a shortfall of this research.

A list of enrollees in the THU governmental programs was obtained from the Department of Corrections and it contains a complete list of enrollees in institutional programs. DOC categorizes governmental programs into 27 categories, including: cognitive behavioral programs, community treatment, drug courts, day reporting, domestic violence education, education programs, electronic monitoring, residential field treatment, Intensive parole, Life Skills program, long term aftercare, mental health treatment, managed reporting, Out Program, Preventive Program, Parenting, REACT, Release Centers, residential monitoring, residential facilities, restorative justice, substance abuse treatment, substance abuse education, sex offender treatment, shock probation, and treatment centers. These categories were paired with the nonprofit categories to create the redundancy measure. Some of these program categories are

similar and may be grouped together, but they illustrate the broad array of department-sponsored government programs that are provided institutionally.

To create the redundancy variable, the nonprofit organization categories were paired with government programs that were considered redundant. Any nonprofit coded as comprehensive were paired with any government program in this data. Nonprofit programs that consider themselves comprehensive provide everything the Department of Corrections provides to those preparing for the re-entry transition. The paired government and nonprofit categories are used consistently across the entire data set (See appendix for the complete pairing list).

In the data set, there were 921 respondents receiving redundant services. These respondents received similar services from both the Department of Corrections and a nonprofit. In contrast, 669 respondents received at least one service from both the government and a nonprofit but were not considered redundant services. 348 respondents were found to be in only nonprofit programs compared to 391 in only government-provided programming. A dichotomous variable capturing each of these conditions was created in the data. For the analysis, each set of redundant, non-redundant, and non-redundant complimentary services were coded into dichotomous variables for each set of circumstances. Redundant services are services where both government-provided services and nonprofit services are primary matches. The opposite, non-redundant services are services that do not match primary services, but could be complimentary – meaning that services were rendered from both the government and a nonprofit, but did not qualify as redundant. Those offenders that received only services from either government or nonprofit are coded into separate variables.

I also include variables that capture the interaction between redundancy and some service types in order to determine if the impact of the former is dependent on the latter. Only service

categories that can fall into both organizational types (government and nonprofit) will be used in the creation of the interaction variables. These include: employment, sex offender treatment and education programs, drug abuse treatment, anger management and counseling, and identification programs.

Control Variables

Research in community corrections literature demonstrates that several additional variables should be included as controls. These include both demographics and prior environmental circumstances. Race, marital status, and education variables are all used as control variables. Race is a basic demographic variable that have consistently shown up in correction and community corrections literature. (For further discussion see Marbley and Ferguson, 2005, Moore, 1996 and Sack and Seidler, 1978). For this research, race has been broken down into a dichotomous variable dividing the sample into those categorized as white, and nonwhites. Marital status is of special discussion because in corrections literature offenders with positive family circumstances are more likely to respond to re-entry services in a positive manner (Travis and Petersilia, 2001) (Jacobs and Helms, 1996). The marital status variable again was modified into a dummy variable of those that are married and those that are not. For an education variable, the college variable from the self-reported section of the TSIPP survey was used dichotomously. The four corrections-specific control variables are prior incarceration, substance abuse scores, risk scores, and whether the offender was on probation or not. Of the corrections-specific control variables, prior incarceration and probation were transformed into dichotomous variables. The other corrections-specific variables are more complex and cover assessment scores that have been combined by the Department of Corrections. Substance abuse scores and risk scores are combined assessment scores that are used in a general score for developing a relatable risk of re-

offense level. The risk score variable is a total of all the variables used in the FRRI assessment. It is measured on a scale of 0 to 11 with 11 being the highest level of risk possible. The substance abuse score is divided into a scale of 1-5. Offenders scoring a 1 are considered average by the Department of Corrections – anything higher than a 1 is considered substance abuse and increases the risk of revocation.

Results

To properly determine the effects of redundancy on the performance of service providers in Missouri's community corrections, I estimated two models that were created to properly analyze the relationships. The first model was created to showcase the differences between redundant services, non-redundant services that could be complimentary or not, and nonprofit and government-only services. These four groups were analyzed in logistic regression with the revocation variable as the outcome variable and government-only service recipients as the excluded group. The second model investigates whether the effect of redundant service provision is moderated by service type. This analysis includes the interaction variables described above. Both models report robust standard errors in order to correct for diagnosed heteroskedactivity.

The results from the first analysis indicate that there is no evidence to support that redundant services in the Missouri community corrections network reduce the likelihood of re-offense. The redundancy variable was not significant at the .05 level and would have only reduced revocations by 4% when compared to those in government provided services. In contrast, the results provide some credence to the network literature by highlighting that those receiving services from non-redundant complimentary services do lower an offender's likelihood to re-offend in comparison to offenders who only receive services from institutional or government programs. The effect of non-redundant complimentary services on the outcome

variable of revocation is large, decreasing the predicted probability of revocation by 0.12. The effect of non-redundant complimentary services is tantamount to reducing the likelihood of revocation by 12% for those enrolled in non-redundant, but complimentary services when compared to those enrolled only in government run programs. Enrollment in only a nonprofit service provider program reduces an offender's likelihood of revocation by 11% when compared to those who were only enrolled in government programs.

The control variables in this model are marital status, risk score total, whether or an offender was still on probation, non-whites, instances of prior incarceration and an education variable measuring whether or not the offender had taken college classes during their incarceration. All of the control variables except college classes and the race variable were significant. Prior incarceration increased the likelihood of revocation the most, changing the predicted probability by .61. This is not surprising, and is even a bit lower than expected, considering that the corrections literature consistently reports a recidivism rate of around 70%. Substantively, the prior incarceration variable predicts that an offender that has been incarcerated prior to this collection period is 61% more likely to re-offend than a first-time offender. Similarly, for every 1-point increase in the substance abuse score, an offender is 17% more likely to re-offend. This is also expected given the well-documented connection between substance abuse and re-offense. The marital status variable suggests that being single increases the likelihood of an offender's chances of revocation by 11% compared to those who were married. Again, the results concur with findings in the community corrections literature, which suggest that families are stabilizing forces in the lives of former inmates. When taken as a whole, the model provides insight into how different combinations of services provide the best quality result; under these circumstances this means selecting the most suitable offenders and placing

them in the best set of complimentary services from both the government and nonprofit providers.

The next model explores whether the findings regarding redundancy are consistent across service type. Since the community corrections network consists of different actors that provide different services, providing insight on what redundancy would do across all the different service types is useful in developing a better sense of the role of redundancy in implementation networks. In the model, interactions between service types and organizational redundancy, as well as main effects for service type are included. The results provide some very interesting insights into the impact of redundant services on network performance. For example, redundant anger management services actually produce a reduction in the probability of revocation relative to those prior offenders who receive non-redundant counseling services. Alternatively, redundant employment and identification provision services produce no significant changes in the re-offense probability relative to non-redundant provision in those areas. Perhaps the most interesting finding relates to sex-offender treatment, which suggests that redundant service provision *increases* the probability of revocation significantly relative to non-redundant provision. This could, of course reflect some artifact of the assignment process (which we cannot measure) where the most incorrigible offenders are placed in redundant programs. It may also suggest, however, that convicted sex offenders receiving redundant services are worse off because they are not being exposed to another program such as life and reintegration skills development offered by different nodes or service providers in the networks.

Conclusions

The results from the models suggest that, contrary to most of the literature surrounding redundancy, this policy implementation network of service providers, on average, does not

receive performance benefits from redundancy. This does not necessarily mean that redundant services are of no use, but that in comparison to complimentary services, redundant services do not reduce revocation rates as much. Complimentary non-redundant service is the combination of both government and nonprofit programming that covers different categories of service types. According to the results of this research, this is the most likely scenario for reducing revocations, though there is some evidence from Model 2, that redundant anger management treatment may offer benefits to prior offenders. These findings suggest that the traditional implementation literature which doubts the pay-off of, and even predicts negative outcomes arising from, redundancy has more to offer the study of implementation networks.

The results also have important practical applications in the design of community corrections networks. Assignment in these networks is often decentralized, with offenders entering post-incarceration programs because of a parole officer, judge, in-prison recruiting by well-meaning community groups, and/or because of self selection. There are also structural requirements in Missouri's community corrections network that may increase the likelihood of redundancy for some offenders. For example, home-planning limits an offender to a set of service providers in a given area that approximates the area of habitation before offense. These restrictions may force an offender into redundant agencies, especially in more rural or remote areas of the state. My results suggest that the decentralized approach and structural constraints like home-planning, may limit success in reducing recidivism, because of the potential for redundancy that they create.

Obviously, there are considerable limitations to my study. Most notable among these is the exclusion of organization level information about providers due to the schedule of data collection. Inherent in the results is the belief that the capacity of the service providers, both

government and nonprofit matters. The finding that revocations have a greater likelihood of being lower when services are received across a diverse set of service type categories, instead of from redundant programs may not consistently hold when provider capacity is controlled. In other words, high capacity organizations may be able to provide productive redundancy, while those with more limited capacity cannot. This is a subject for further research.

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Appendix

MODEL 1

Number of obs = 2089
Wald chi2(11) = 797.71
Prob > chi2 = 0.0000
Pseudo R2 = 0.5158

Log pseudolikelihood = -688.01241

Revocations	Robust Coef.	Std. Err.	z	P> z 	[95% Conf. Interval]	
Redundancy	.0442164	.1804428	0.25	0.806	-.309445	.397878
NonRedundancy	-.4870221	.1987765	-2.45	0.014	-.87662	-.097427
Nponly	-.4424213	.2467725	-1.79	0.073	-.926086	.041244
Totgov	.2301153	.0515885	4.46	0.000	.129004	.33123
Single	.4711289	.1879469	2.51	0.012	.102759	.839498
Risk Score	.0939518	.0430214	2.18	0.029	.009631	.178272
Probation	-.4072447	.1538766	-2.65	0.008	-.708837	.105652
Nonwhite	-.0773517	.1478503	-0.52	0.601	-.367133	.212429
Prior Incarceration	2.509915	.1085446	23.12	0.000	2.29717	2.72266
Substance Abuse Score	.7193725	.2399509	3.00	0.003	.249077	1.18967
College	.0456453	.2286233	0.20	0.842	-.402448	.493739
_cons	-4.203987	.3790311	-11.09	0.000	-4.94687	-3.4611

MODEL 2

Log pseudolikelihood = -680.55564

Number of obs = 2089
 Wald chi2(23) = 1145.99
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.5211

Revocations	Robust Coef.	Std. Err.	z	P> z 	[95% Conf. Interval]	
Servdum1	-0.0270881	.4946415	-0.05	0.956	-.99656	.942392
Employment Redundancy	0.2441798	.5164019	0.47	0.636	-.767949	1.25631
Servdum2	0.2672333	.3554238	0.75	0.452	-.429385	.963851
Servdum3	-0.1722476	.7734083	-0.22	0.824	-1.6881	1.34361
Servdum4	-13.06974	1.02842	-12.71	0.000	-15.0854	-11.054
Sex Off. Redundancy	11.84722	1.120664	10.57	0.000	9.65076	14.0437
Servdum5	-0.0639176	.4153173	-0.15	0.878	-.877925	.750089
Drug Treat. Redundancy	(omitted)					
Servdum6	9.243217	1.038439	8.90	0.000	7.20791	11.2785
Anger Mgt. Redundancy	-9.952295	1.207412	-8.24	0.000	-12.3188	-7.5858
Servdum7	-0.5734538	.2328702	-2.46	0.014	-1.02987	-.11704
I.D. Redundancy	-0.5672145	1.671056	-0.34	0.734	-3.84242	2.70799
Servdum8	0.5414151	.3202146	1.69	0.091	-.086194	1.16902
LifeSkills Redundancy	(omitted)					
Servdum9	-0.2836451	.2550796	-1.11	0.266	-.783592	.216302
Servdum10	-0.0254512	.2317488	-0.11	0.913	-.479671	.428768
Totgov	0.2786402	.0460969	6.04	0.000	.18829	.368988
Single	0.5095298	.1932165	2.64	0.008	.130831	.888227
Risk Score	0.1165852	.0459045	2.54	0.011	.026614	.206556
Probation	-0.4369757	.1559144	-2.80	0.005	-.742562	.131389
Nonwhite	-0.0381612	.1537634	-0.25	0.804	-.339532	.263210
Employment	-0.1016222	.1174902	-0.86	0.387	-.331899	.128654

Prior Incarceration	2.511206	.2415747	22.20	0.000	2.28955	2.73287
Substance Abuse	0.722291	.2415747	2.99	0.003	.248813	1.19577
College	0.504218	.2359816	0.21	0.831	-.412094	.512937
_cons	-4.499897	.387383	-11.62	0.000	-5.25915	-3.7406

Organizational Coding

Organizations	Primary Coding	Secondary Coding	Key
Catholic Charities Sex Offenders	4	10	1 – Employment 2 –Housing 3- Transportation 4-Sex Offender Treatment 5 – Substance Abuse Treatment 6 – Cognitive Behavioral Treatment 7 - Identification 8 - Family/Financial Training 9 – Basic Needs 10 – Comprehensive Services
Catholic Charities Kansas City	10	1	
Catholic Charities Buchanan	10	1	
Catholic Charities Liberty	10	1	
Catholic Charities Independence	10	1	
House Inc	2	10	
St. Vincent DePaul (Vital Papers)	7	.	
Southwest Alliance	10	8	
Provident	4	6	
St. Vincent DePaul (Entry Essentials)	9	2	
Mending Hearts	10	.	
Literacy Kansas City	8	1	
New Madrid Co.	1	8	

R4 Mission Gate	1	10
R4 Faithwalk Ministries	8	2
R6 Faithwalk Ministries	8	2
Lake Area Benton Co.	1	8
Lake Area Miller Co.	1	8
Butler Co.	2	3
Pemiscot Co.	10	.
Phoenix (Substance Abuse)	5	6
R1 Mission Gate	1	10
Project Cope	10	1
St. Francios Co.	10	.
37th Judicial Court	10	.
JobPoint Fulton	1	8
JobPoint Columbia	1	8
Washington Co.	1	8
Southwest Alliance (Transportation)	3	.
Provident (counseling)	6	8
Phoenix (In2Action)	1	8
MERS-Goodwill	1	10

Organizational Service Category	Matching Government Service Type (By Gov. Variable Names)	
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1	Release center, day reporting, life skills, managed reporting
2	Residential facility
3	None
4	Sex offender, treatment center, shock probation
5	Substance abuse treatment, substance abuse education, OUT Program, REACT, Long Term Therapy, Intensive Probation, Drug Court, Cognitive Behavioral
6	Cognitive Behavioral Treatment, mental health treatment, treatment centers
7	None
8	Shock Probation, release center, parenting program, preventive treatment, managed reporting, mental health, life skills, education, domestic violence, restorative justice, community treatment
9	None
10	Every Government program listed.