

Exploring Collaboration between Regional Planning and Public Health in Southwest Virginia

By

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Abstract

Research on collaboration between regional planning and public health promises project cost sharing while achieving the missions of the respective organizations. The objective of this research is to apply the theoretical framework of critical contingencies to assess the current level of inter-organizational relationships between planning district commissions (PDCs) and health districts in the area.

Using a case study approach, I collected data through in-depth, semi-structured interviews with the directors of four PDCs and four health districts of southwest Virginia. The results from this study reveal that PDCs and health districts collaborate in three areas: physical/environmental health, access to primary health care, and economic development.

However, collaboration is not consistent across the four districts. In districts with minimal collaboration, directors at both PDCs and health districts cite conflicting missions and a lack of understanding about the other organization. In districts with the highest number of common projects, the directors at both organizations attribute collaboration to a dependency on technical and professional resources, the need for legitimacy and authority, and the ability to achieve internal objectives. All directors claim that limited time and human resources impede collaboration. The directors' views on resource constraints (predominantly time) and organizational philosophy corroborate the general findings of the collaboration literature.

Future research should address means of enhancing collaboration between planners and health districts through improved communication about programs and actual, not perceived, skills, resources, and mission of the complementary organization.

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This research depended on the interview data that I collected from the directors of the health districts and planning district commissions in southwest Virginia. Thanks to the directors for taking the time out of their demanding schedules to meet with me and to talk about their organization and collaboration. I know the work that they do is invaluable to their communities and hope that my work helps their work.

For helping me to keep my sanity, I thank my many friends, among them Helen Horton, Maria Adames, and Ruth Babylon, who gave me advice on research and style, made sure I actually left the office to sleep, and took me out for ice cream. There were many times I wanted to quit and set off to parts unknown, but they persuaded me to stay and type one more page.

While there are many others who I owe a debt of thanks, I will close by thanking my mentor, supervisor, and friend, Sharon Dwyer, who taught me how to develop a theoretical framework, to design a model, and to understand the real value of collaboration for the benefit of community health.

Although I received support and comments from many individuals, I, alone, am responsible for the content of this thesis and for any errors.

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Abbreviations and Acronyms

American Society of Planning Officials (ASPO)

Centers for Disease Control and Prevention (CDC)

Geographic Information Systems (GIS)

Health Systems Agency (HSA)

Joint Legislative Audit and Review Commission (JLARC)

Planning District Commission (PDC)

Virginia Association of Planning District Commissions (VAPDC)

Virginia Department of Health (VDH)

World Health Organization (WHO)

Chapter 1 Introduction

Regional planners and public health officials in southwest Virginia serve similar constituents. The legally-mandated role of the regional planner is “to encourage and facilitate local government cooperation. . . in addressing on a regional basis problems of greater than local significance” (Code of Virginia, Section 15.2-4207). Regional planners work with entities that have regulatory authority, such as local planners and local governments, to develop programs with a regional focus. Public health districts must administer “preventative, curative, restorative, and environmental health services” programs “and abate hazards nuisances to the environment” (Code of Virginia, Section 32.1-2). Both groups must function within the mandated guidelines set by the enabling legislation, but these mandates do not encompass all the needs within each jurisdiction. To meet all the needs of a jurisdiction, organizations may choose to reach out to other organizations for resources and assistance. Within any jurisdiction there are multiple private, public, and non-profit organizations that may be potential partners. In Virginia, health districts and planning district commissions (PDC)¹ often function within the same jurisdiction, and although the spheres of influence for planning and health are distinct, an area of overlap exists. To date, however, very little research has examined the level of collaboration between regional planners and health officials.

A summer internship with the New River Valley Planning District Commission and the occasion to work with the New River Health District on a year-long project gave me the unique opportunity to see how these agencies function, what projects receive the greatest attention, and how internal and external working relationships drive projects. Working with these organizations also allowed me to be a participant observer in how each organization identified key stakeholders to support specific projects. My primary project with the PDC was to research, design, and publish a newsletter informing the residents about the chemical, physical, and health hazards of flooding. With the health district, I worked on a project to map disease incidence using geographical information systems (GIS). Although the health hazards of flooding has a public health component and GIS capabilities are a primary function of PDCs, neither organization had approached the other for intellectual, human, or financial resources on these

¹ As it is local convention to abbreviate planning district commission to PDC, I have followed this rule. I have not heard of any informal abbreviation of local health district, so I will refer to them as health districts.

specific projects. I found this arrangement to be counterproductive. In this instance, both organizations worked towards the betterment of the environmental health of the community, but there was no sign of collaboration to overcome the limited resources of each organization.

Through some initial discussions with staff members in both organizations, I learned that although collaboration did not exist for these specific projects, the local PDC and health district have a history of working together. Later on in the PDC internship, I was able to work on one of these collaborative projects—a water-related issue—for which I had a professional contact in the health district for technical assistance. In a few short months, I learned that the local PDC works on health-related issues and the health district has projects within the scope of regional planning. In addition to this framework of functionality, I learned that the organizations collaborated on a limited number of projects. Although I was beginning to understand the nature of collaboration within this district, I wondered how other PDCs and health districts functioned. This area of southwest Virginia is known for environmental health problems related to groundwater contamination caused by the porous karst soil, inadequate water and sewage treatment for residents in rural communities, and natural hazards such as flooding and drought. From my perspective, there seemed to be ample opportunity for PDCs and health districts to collaborate given that both share a common goal to improve the environmental health of their communities. In addition, neither group is adequate in addressing these issues alone. I anticipated that my vision for a healthier community was not shared uniformly, but I wanted to understand the deviations from this perspective and to possibly suggest a way to overcome some of the obstacles to collaboration.

The purpose of this research was to evaluate the levels of collaboration as outlined by the collaboration literature, with the actual workings of the southwest Virginia study site. In order to assess these levels, I conducted a case study of the planning district commissions and local health districts in southwest Virginia, including Lenowisco, Cumberland Plateau, Mt. Rogers, and New River (Valley)². Chapter 4 has a detailed explanation and map of the research area. I selected the four districts in southwest Virginia because the boundaries of the health district match the boundaries of the PDCs in this region of the commonwealth.

² While most of the health districts and planning district commissions in the study area have the same for both organization, the New River Health District and the New River Valley Planning District Commission have a slightly different district name. When I talk about the district as a whole, I will refer to it as the New River (Valley) district. When I refer to only the organization I will use the proper title.

In addition to having similar jurisdictions, health districts and PDCs share funding sources. Health departments receive funding from the General Assembly, local governments, service fees, and grants (Hershey, 2001; Joint Legislative Audit Review Commission, 2000). PDCs receive a portion of funding from state agencies like the Department of Housing and Community Development, local governments, and grants (JLARC, 1995). Both groups receive funding from the local governments within their jurisdiction. Therefore, it would be valuable to learn if these funds finance similar projects to the extent that there is a redundancy in the allocation of resources. Understanding the potential for collaboration between health districts and planning commissions might lead to an appropriate and efficient use of resources to obtain health objectives common to both agencies.

Several key pieces of literature inform this study. The organizational literature suggests that agencies must share resources in order to survive (Pfeffer and Salancik, 1978). Interactions to exchange resources that further the existence of an organization constitutes the resource dependency model. Another perspective that I will discuss is the role of the transaction cost theory, which motivates inter-organizational collaboration (Williamson, 1995). The key perspective on organizational partnerships is Oliver's (1990) contingencies for collaboration, particularly between agencies with similar scopes that collaborate on joint projects. The concepts of asymmetry, reciprocity, efficiency, stability, and legitimacy characterize these relationships. While this case study focuses on collaboration, I outline the domains of planning and public health for a better perspective on each discipline.

Public health research underscores the significance of providing community health services under the assessment, policy development, and assurance functions. The provision of public health services in Virginia is the primary responsibility of the local health districts (JLARC, 2000). Regional planners face the challenge of providing for the physical, social, and economic construction of a community in an environment of imperfect access to information. The PDCs in Virginia utilize available resources to meet these challenges (JLARC, 1995). To augment the capabilities of the health districts and the PDCs, collaboration offers additional resources and opportunities. This research explores current work on collaboration between public health and planning, suggests areas of expansion, and explains why collaboration may not exist.

This introduction has provided an overview of the project, defined the research area, and situated the problem within a broader planning context. Chapter Two offers the foundations of planning and public health, and explains that while the two disciplines are distinct, there might be areas of common interest stemming from the common objective to improve environmental health. Chapter Three introduces four inter-related theories of collaboration that provide the basis for understanding and evaluating the relationship between planning and health in southwest Virginia. In order to better understand the research area, Chapter Four presents an explanation of the PDCs and health districts at the state and regional levels. Chapter Five contains an explanation of the methodology and the connection to the research objectives. After the theoretical framework, organizational context, and methodology, I present the findings in Chapter Six from the in-depth interviews I conducted with my key informants, the directors. This section applies the theoretical concepts to interpret the existence and non-existence of interorganizational relationships between the PDC and the public health office of each district in the study area. Finally, Chapter Seven offers some concluding remarks and recommendations for further research in the areas of collaboration between regional planners and health planners.

Chapter 2

Background of Regional Planning and Public Health

The key participants in this case study are planning district commissions and public health districts in southwest Virginia. While public health has an extensive history in this commonwealth, the background for regional planning is only several decades old, and consequently collaboration between the two organizations is even younger. However, in the context of the United States, the fields of planning and public health have intersected on numerous occasions throughout history. This chapter provides an overview of the two disciplines that led into the context of planning and public health in Virginia. The timeline in Table 1 presents the seminal moments of planning and public health.

Table 1. Timeline of Regional Planning and Public Health

YEAR	REGIONAL PLANNING	PUBLIC HEALTH
1820	Urbanization	Sanitation Reform Movement
Late 19 th Century	City Beautiful Movement	Germ Theory
Early 20 th Century		Multifactorial Disease Causation Environmentalism
1926	Euclid v. Ambler Realty	
1956	National Defense Highway Act	
1968	The Urban Planner in Health Planning	
1974		National Health Planning & Resources Development Act
Mid 1980s		Medical care privatization and return of health planning to the states
1986	Healthy Cities, World Health Organization (Europe)	

History

Public health has been connected to the condition of the community and the environment since the Greek Goddess of Health, Hygeia, lent her name to the term hygiene (Turshen, 1989). The ancient world connected curative medicine, represented by Aesculapius' healing powers, to hygiene, or "health promotion and disease prevention" (Lewis, 2001, p. 436). The Industrial Revolution of the middle 19th century intensified urbanization of the cities, drawing to the American city workers from abroad and from the rural areas. The congested cities were

unhealthy due to the crowded housing conditions and poor water and sewer systems (Levy, 2002). Lasker (1997) tells us that “although early public health workers lacked any knowledge of specific etiologic agents, they were able to relate infectious diseases to conditions associated with urbanization and industrialization” (p. 12). This initial understanding of the correlation between urbanization and poor health outcomes allowed public officials to implement appropriate measures to improve the environmental health and consequently the community’s health. The Sanitation Reform movement in public health responded to the unhealthy, overcrowded, industrial city and influenced both public health and urban planning (Sclar and Northridge, 2001). The ability to build effective sanitation systems sparked and fueled the City Beautiful movement in urban planning; this movement financed the capital infrastructure for improved health outcomes throughout the community (Duhl and Sanchez, 1999; Levy, 2002). The physical appearance of the city appealed to the aesthetics and health of its citizens.

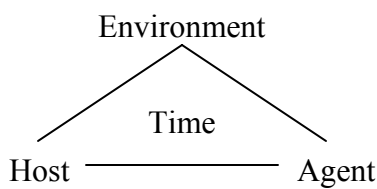
An outcome of the Sanitation Reform movement and the City Beautiful movement was the development of effective underground sewer systems and improved water supply controlled for waterborne infectious diseases that plagued urban areas (Moore, 2002). Unchecked urbanization during the 19th century created sanitation problems tied to health concerns relating to communicable diseases. However, sanitation was only one area identified for improvement. In the arena of housing, contemporary researchers understood that crowded, poorly ventilated apartments contributed to the poor health of the residents. Planners and public health officials were called upon to address the problems of urbanization by developing sewers and water treatment facilities, and a cleaner, more open urban environment (Levy, 2002).

By the late 19th century, medical researchers developed the concept of the germ theory to explain how microorganisms cause diseases and consequently poor health (Turshen, 1989). The response from the planning profession was to promote open spaces and housing reform to eliminate, or at least lessen, germs from the environment (Levy, 2002; Turshen, 1989). Housing reform at this period included reducing lot coverage, increasing the number of bathrooms per apartments, requiring courtyards, and reducing fire hazards. As research in the medical and public health fields identified causes of poor health, planners responded by improving those areas within the community.

Throughout the 20th century, the theories of multifactorial disease causation/ environmentalism, biological/genetics, and lifestyle choice emerged to explain the causes of

health outcomes for a variety of diseases, not just infectious diseases (Curtis and Taket, 1996; Turshen, 1989). The role of the environment is a recurring theme in each medical theory. Multifactorial/environmentalism theories mirror the epidemiological triangle (Figure 1), which suggests that the agent, the host, the environment interacting as a function of time must all be present in order for disease to occur.

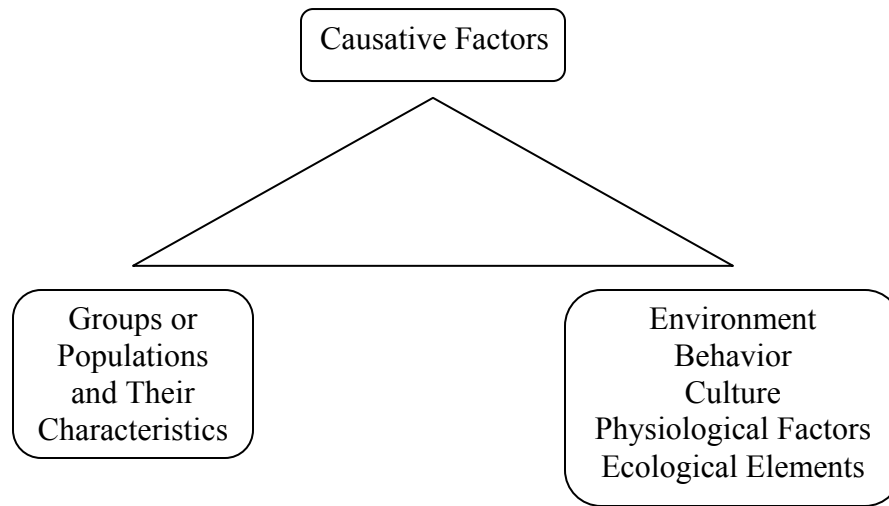
Figure 1. Epidemiology Triangle



Source: Timmreck, 2002, p. 7

This simple diagram effectively explains infectious diseases, but not the more complex chronic or genetic diseases. The biological/genetics theory suggests that some people are “hereditarily vulnerable to toxic environments,” (Turshen, 1989, p. 22) while the lifestyle choice theory explains that the way people live, including the environmental setting of where they live and how they exercise, contributes to the disease pattern. Among all four theories, the environment is a recurring factor. The advanced model of the Epidemiology Triangle, as shown in Figure 2, mirrors the more complex medical models and incorporates the broader scope of chronic disease factors (Timmreck, 2002).

Figure 2. Advanced Model of the Epidemiology Triangle



Source: Timmreck, 2002, p. 15.

While this model is not comprehensive, it recognizes some of the key components that affect chronic and genetic diseases. In the Advanced Epidemiology Triangle, environment is still one of the factors that contribute to disease. In the discussion of the nexus between planning and public health later in this chapter, I explain how the realm of planning can influence not only the environment but also the behavior and culture of a community to mitigate non-infectious diseases. Understanding the medical theories for relationships among disease factors allows public health officers and planners to control risk through programs and policies that address these causal relationships.

The explanations of disease causation cover different categories of health outcomes. Germ theory and multifactorial causation are more applicable to infectious diseases, whereas the theories on biology and lifestyle better explain chronic diseases (Dever, 1980). Both regional planners and public health officers must be aware of these theories in order to address the broadest range of diseases and to effectively reduce incidence rates.

While advances in medical theories explain the historical connection between planning and public health, developments in physical planning also maintain this nexus. As smaller American communities engaged in planning at the beginning of the 20th century, the conflicting demands of land use brought about zoning (Wright and Gitelman, 1991). Zoning, formally established in 1926 with the case of the Village of Euclid v. Ambler Realty, segregated land uses for the benefit of the community. The legal foundation of zoning is the police power, or the power to protect the health and welfare of a community (Grad, 1990; Maantay, 2001).

Community planners use zoning to demarcate portions of the community that may be used exclusively for specific uses, such as residential, industrial, and agricultural (Maantay, 2001). These decisions may stem from factors such as controlling the population density, protecting the natural environment, and regulating the demands for a particular land use designation. Zoning, as a function of the police power, directly links a planning tool to public health. This connection reaffirms that the nature of the environment affects the health of the community and that modifying the physical landscape will have a unique affect on the health of the community.

After World War II, the construction of highway systems strongly impacted the scale and air quality of communities (Levy, 2002; Dever, 1980). In concentrated urban areas, the transportation system has had a direct negative affect on air quality, strikingly illustrated in California by a report compiled by the Environmental Working Group (Sharp and Walker, 2003). Road networks contribute to suburban development and sprawl and the particulate matter from vehicular emissions contributes to higher rates of respiratory illnesses. Others have argued that the fault of the road network is that it favors vehicular traffic and discourages pedestrian and bicycle traffic by increasing the distance of destinations and by not providing for sidewalks or bike lines (Jackson and Kochtitzky, 2001). Without destinations within walking distance, many urban residents do not engage in adequate regular exercise leading to an increase in chronic diseases and diabetes (Frank and Engelke, 2001). The increase of transportation routes in the urban form is an example of both the multifactorial and lifestyle models of poor health.

By the 1960s, the planning profession and the public health profession had matured significantly, but lacked the sophistication of broad collaboration. In the Department of Health, Education, and Welfare, researchers recognized the connection between health and planning and recommended further research into “the interface between health planning and urban planning” (ASPO, 1968, p. 5). The report discussed both an “absence of a strong health planning movement” (p. 55) and the “fragmentation of health planning” (p. 56) in America and recommended an expanded role for planning agencies to support health-planning initiatives. Despite the recommendations of this report, very little has been done at the federal level to strengthen the relationship between planning and public health.

One temporary measure was to create a system of health planning organizations. In order to manage the fragmentation of health care between private providers and public health

departments, Congress passed the National Health Planning and Resources Development Act of 1974 (Starr, 1982). This act established 200 Health Systems Agencies (HSA) throughout the country to monitor the local use of federal funds. While the HSAs were required to compile a three-year Health System Plan, to complete certificates of need, and to review upcoming projects, they “were not given any decision-making power” (Starr, 1982, p. 402). Their influence waned in the following decade when policies from the Reagan administration shifted health planning from the federal level to the state level (Scarpaci, 1989). A national system for health planning has never truly existed in the U.S. However, the recent shift in the political agenda towards bioterrorism preparedness is creating a new demand for cohesive provision of public health, and particularly environmental health services. Examples from the data show that this new initiative from the federal government has reached the local organizations of southwest Virginia.

In the United States for most of the 20th century, private medicine has been the major provider of health care while public health has played a supporting role (Starr, 1982). During the postwar period of economic prosperity, the nation’s health infrastructure expanded, and in some instances, was created. Through Title XVIII of the 1965 Social Security Act, Congress created key components of the modern health system in America: Medicare and Medicaid, federal insurance plans for the elderly and the indigent populations, respectively (Black and Kominski, 2001). These programs augmented the access to health care for specific populations while not addressing holistic community health because it does not include environmental issues.

While the United States may not have developed a comprehensive process to integrate planning into the health of the community, some European cities have developed models for interdisciplinary collaboration for improved community health. In 1979, the World Health Organization (WHO) launched the Health for All by the Year 2000 campaign to enhance the health status of all peoples to identified standards within 20 years (Barton and Tsourou, 2000). Within 10 years, the WHO revealed that the Health Cities project provided a “local basis for implementing the principles of the WHO strategy for health for all and the Ottawa Charter for Health Promotion” (p. 29). Several European cities have demonstrated models of interorganizational collaboration with planning, public health, university, and trade union representatives, just as one example. As the results from these experiments become known, the model for urban planning that promotes health can lead to a healthy city that Americans may

adopt. Currently, Indiana University-Purdue University hosts CityNet, a WHO Collaboration Center in Health Communities (CityNet, 2003). CityNet provides support and information for developing healthy communities in America. However, this program is not broadly implemented, and has only four communities registered in Virginia, yet none of the cities are in the study area.

In this brief review of the history of planning and public health, I have shown how evolving theories on disease and physical development have connected these two disciplines. Their association, moreover, has been conditioned by a changing political environment in the latter part of the 20th century. About forty years ago, the United States government tried to provide bureaucratic support for the collaboration between these fields, but that effort did not have enough authority to be effective. In recent decades, unmanaged urban growth continues to exacerbate the health of the population by increasing the morbidity and mortality rates of chronic diseases. In contrast, European cities continue to explore new and alternative paths to create healthy cities. Now is the time for American communities to explore new strategies to improve health outcomes.

The Nexus of Planning and Public Health

Because this thesis does not examine the specific functions of either regional planning or public health, it is not necessary to explore in-depth the theories that support each discipline. However, it will be useful to review the domains of planning and health and to focus on areas where these domains overlap.

Dever (1980) developed an inclusive, holistic model of health policy analysis. Known as the epidemiological model, this framework consists of the system of medical care organizations, life style, environment, and human biology. The value of considering components beyond the direct delivery of health services includes “all matters affecting health. . . to provide a more balanced approach to the development of health policy when compared with the limiting, traditional divisions of prevention, diagnosis, therapy, and rehabilitation, or with public health, mental health, and clinical medicine” (p. 27). Twenty years later, the results of this case study show that Dever’s comprehensive Epidemiological Model has not been universally accepted.

In recent years, a new wave of research attempts to connect public health and planning. Carmin and Bohland (2002) present a framework where public health domains meet planning’s

sphere of influence. The intent of the framework is to identify specific health needs and then to identify the tools within planning that can address the public health needs. A simplified version of this matrix appears in Table 2 below:

Table 2. A Matrix of the Related Domains between Public Health and Planning

PUBLIC HEALTH DOMAINS	PLANNING DOMAINS
Responding to new infectious disease threats	Infrastructure, environment, and transportation planning; Housing
Promoting readiness and responsiveness	Hazard and disaster mitigation, preparation, and responsiveness
Minimizing environmental health risks	Zoning; Regulation; Policy implementation and enforcement
Fostering wellness through behavior change	Built environment; Zoning; Building codes
Ensuring access to health care	Social and health care planning;

Source: Carmin and Bohland, 2002.

The table shows how the roles and responsibilities of each discipline complement each other. For example, let us consider the possible interaction between “fostering wellness through behavior change” and the built environment, zoning, and building codes. A community with high rates of obesity, diabetes, and cardiovascular disease may decide to increase physical activity among its citizens to counteract the morbidity rates. Developing walking trails, zoning sections of the community for mixed uses or higher density development, and reducing building setbacks exemplify three tools of the planning domain: modifying the built environment, zoning, and building codes. It is important to note that while local health districts are responsible for providing the services denoted under public health domains, a broad range of urban and regional planning agencies fulfill the services mentioned under planning domains. The domain and specific services of PDCs are explained in Chapter Four.

This section discusses the ability of public health and planning to complement each other in five areas as defined by Carmin and Bohland. Unlike previous attempts to link health and planning, this matrix considers contemporary functions of the planning and public health disciplines and takes a more proactive stance on combining the strengths of each discipline. The following sections explain planning and health individually.

The Scope of Planning

While the Carmin/Bohland matrix considers a broad range of planning roles, it does not include economic planning, a primary program area of PDCs in Virginia. This case study examined the relationship between health districts and regional planning districts in southwest Virginia. One of the primary directives of the PDCs in Virginia is economic development. Because the Carmin/Bohland matrix does not incorporate this facet of planning, it is necessary to consider a broader scope of the discipline. The organization of planning outlined by Burchell and Sternlieb (1979) offers a broader range of planning and categorizes planning into the four following areas:

1. **Physical:** Concerns the physical development of an area emphasizing primarily form and function
2. **Social:** Emphasizes the needs and preference of the plan's consumer population—people.
3. **Economic:** Deals with the planned as opposed to market distribution of goods and services.
4. **Policy:** Involves the decision making in both the private and public sectors (p. xviii-xix)

Combining this framework, particularly the function of economic planning, to the matrix proposed by Carmin and Bohland provides a more comprehensive model for understanding the collaboration of planning and public health in southwest Virginia. As the results will show, a few directors in the study area view economic development as a means of improving access to health care.

The Role of Public Health

In 1988, the Institute of Medicine assessed the role of public health in the United States and formulated what came to be known as the core functions of public health: assurance, assessment, and policy development. In 1994, the Centers for Disease Control and Prevention (CDC) expanded on these core functions to produce the ten “essential services” of public health listed below:

1. **Monitor** health status
 2. **Inform** and empower people
 3. **Develop** policies and plans
 4. **Link** people to health services
 5. **Evaluate** quality
 6. **Diagnose** health problems
 7. **Mobilize** community partnerships
 8. **Enforce** laws and regulations
 9. **Assure** a competent workforce
 10. **Research** for new insights
- Source: Harrell and Baker, 1994; Emphasis original.

The combination of the core functions and essential services became the foundation for research and evaluation of public health. Handler, Issel, and Turnock proposed “A Conceptual Framework to Measure Performance of the Public Health System” (2001). The authors evaluated the public health functions and services by considering the macro context, mission, structural capacity, process, and outcomes. The concept of using the macro context and mission of the organization serves to broaden the understanding of health outcomes and also helps to explain the propensity to collaborate. The resource dependency theory, explained in the next chapter, also supports this approach.

In brief, this chapter provided the backdrop for understanding planning, public health, and the potential for collaboration between these two disciplines. While the history and professional practice of public health is well established, planning is younger and more dynamic. Because the profession of regional planning is in the midst of development, this is an ideal time to examine and evaluate the levels of interorganizational relationship with public health organizations. Chapter Three will focus on the theories of collaboration that will be used to evaluate the partnership efforts between regional planning and public health.

Chapter 3

Framework for Collaboration

The previous chapters have provided the means to understand the overall purpose of the research project and the historical and functional roles of regional planning and public health. Chapter Two explained that while a historical connection once existed between the two disciplines, the fields have moved apart. Planning and public health have essentially evolved from a historical connection to become distinct disciplines. In the 1960's there was a brief mention at the federal level for collaboration, and recent research has examined how to re-establish the connection in order to enhance the benefit for the target community. Both planning and public health have a common altruistic goal to improve the quality of life of the community and its residents. While I know that health districts and PDCs collaborate on some level in the region, the extent of this collaboration is unknown. Using an established framework for collaboration provides an objective rubric for measuring and analyzing collaboration in this area of Virginia.

Collaboration, a common term with multiple meanings, can enhance the outcomes for planning and public health projects. For instance, Baggs (1998) uses collaboration to mean “an interaction that is complementary, with input and responses from each participant, allowing for a synergistic building to better [service] delivery” (p. 185). Likewise, Roussos and Fawcett (2000) define a collaborative partnership as “an alliance among people and organizations from multiple sectors, such as schools and businesses, working together to achieve a common purpose” (p. 369). The definition of collaboration that drove my research comes from Oliver (1990), stating that collaborations are “relatively enduring transactions, flows, and linkages that occur among or between an organization and one or more organizations in its environment” (p. 241).

This chapter introduces the theoretical framework that will be used to explain the levels of collaboration within the southwest Virginia public health and planning districts. The common objectives of regional planning and public health planning suggest that these two disciplines should work together, and the following theories provide economically-based and organizationally-based reasons for collaboration.

Fundamental Theories of Organizational Collaboration

The operations of organizations are unique from the interactions among individuals. Organizations face a different set of constraints and motivations and are influenced by the environment as well as individuals. The following explanations on resource dependency theory and transaction cost theory provide two explanations for organizational collaboration. This is followed by an explanation of the contingencies for collaboration which draws from resource dependency theory and transaction cost theory to provide a predictable model for collaboration.

Resource Dependency Theory

The crux of resource dependency theory is that no organization is an island, and relies on resources from other groups for survival (Pfeffer and Salancik, 1978). In order to obtain and retain these resources, which may include financial, intellectual, and human resources, an organization is required to interact with external groups using internal abilities. The ability to interact well with the external environment is a measure of an organization's effectiveness while efficiency measures the internal interactions. The external environment, effectiveness, and efficiency are the three key components of understanding resource dependency theory. Other factors are the individual, management, constraints, and the organizational structure.

Transaction Cost Theory

Transaction cost theory is a model of collaboration connected to economic principles (Williamson 1995). This theory suggests that the motivation to enter into interorganizational cooperation lies in the "opportunity to reduce transaction costs and thereby maximize economic or psychological benefits" (Foster and Meinhard, 2002, p. 551). The goal, therefore, is to lessen the transaction cost of one organization by sharing these costs with another organization. Another way to view transaction cost theory is as a means to reduce costs by enhancing an organization's efficiency, the internal standard of operation. These operational costs may include financial resources, human resources, or technical resources. Managing limited resources influences the choice of organizations to participate in collaborations.

Contingencies for Collaboration

Resource dependency theory and transaction cost theory provide a context for understanding the propensity for organizations to collaborate, but do not provide an explanation for specific collaborations. To understand specific collaborative relationships, it is necessary to look beyond these theories. Oliver's (1990) research on collaboration considered how these fundamental theories on collaboration apply to six types of relationships. First, Oliver states that collaborative relationships occur when "organizations consciously enter into relations for specific reasons within the constraints of a variety of conditions that limit or influence their choices" (p. 242). Following this explanation, she builds upon the resource dependency and transaction cost theories to produce the determinants of six types of interorganizational relationships.

The contingencies of collaboration are necessity, asymmetry, reciprocity, efficiency, stability, and legitimacy (Oliver, 1990). Of these six contingencies, necessity is the only external factor. Oliver defines necessity as entering into a relationship involuntarily or to meet a mandate. In the case studies of southwest Virginia, the working relationship between public health and regional planning is partially mandated. The enabling legislation for PDCs requires the organization to collaborate locally and, at the state level, to address "on a regional basis problems of greater than local significance" (Code of Virginia, Section 15.2-4207), but does not specifically identify who the partners should be. Because PDCs are not mandated to collaborate specifically with the health districts, necessity, by Oliver's definition, is not a motivating factor for collaboration. Therefore, I focused on the other five internal contingencies. Oliver (1990) defines contingencies and their definitions this way:

1. **Asymmetry:** "the potential to exercise power or control over another organization or its resources" (p. 243)
2. **Reciprocity:** relationships in pursuit of "common or mutually beneficial goals or interests" (p. 244)
3. **Efficiency:** the desire of an organization to "improve its internal input/output ratio, not by the need to conform to the dictates of a higher jurisdiction, the desire to exert power and control over external resources, or the wish to pursue reciprocal interorganizational benefits" (p. 245)
4. **Stability:** "an adaptive response to environmental uncertainty. . . generated by resource scarcity and by a lack of perfect knowledge about environmental fluctuation,

availability of exchange partners, and available rates of exchange on an interorganizational field” (p. 246)

5. **Legitimacy:** the need “to demonstrate or improve [an organization’s] reputation, image, prestige, or congruence with prevailing norms in its institutional environment” (p. 246)

At least one contingency must be present to define an interorganizational relationship, but generally more than one contingency is present. The following subsections more fully define each contingency.

Asymmetry

Asymmetry describes a relationship in which one partner has significantly more power or influence over the other organization (Oliver, 1990). This stronghold approach to collaboration may be voluntary on the part of the dominant organization, but the weaker organization participates as an involuntary partner. This contingency reflects the concepts of resource dependency theory in that the stronger organization initiates the domineering relationship in order to usurp resources from the weaker institution. The minor organization receives little or no benefit from this collaborative structure.

I would expect to find asymmetric collaborations between different levels of one organization (vertical relationships) rather than between organizations (horizontal relationships). For example, within a state agency, an asymmetrical relationship might exist between the central offices (major partner) and the local offices (minor partner). Another opportunity for this relationship to manifest itself is a collaboration between a funding source (major partner) and the funding recipient (minor partner), in which the financial resources of the funding source represent the power over the minor organization.

In the case of PDCs and local health districts, the organizational structures of these two groups are distinct enough that asymmetry is unlikely. While collaboration can augment funding streams, human resource capabilities, and other resources, each organization is not dependent on the other to function.

Reciprocity

Asymmetry brings to mind “domination, power, and control,” but reciprocity emphasizes “cooperation, collaboration, and coordination among organizations” (Oliver, 1990, p. 244). A

reciprocal collaboration allows both sides to equally benefit, and this form of collaboration is often found in “health and social service agencies” (p. 245).

Organizations may receive multiple resources from a reciprocal collaboration, and this exchange mirrors the concepts of the resource dependency theory. In this context, each organization looks to the other for resources, and each mutually benefits from the collaboration.

Efficiency

The contingency of efficiency stems from transaction cost theory and the desire to “improve [the organization’s] input/output ratio” by “reductions in unit costs, waste, downtime, or cost per patient or client” (Oliver, 1990, p. 245). This contingency is common among for-profit organizations, but is also seen in the activities of not-for-profit agencies that aim to maximize output with limited resources.

PDCs and health districts in Virginia have funding sources that do not always cover the mandated services required for each organization to provide. In addition, local directors may identify projects needed by the community that do not warrant funding from the regular channels. To provide the complete gamut of mandated and additional services, these organizations turn to collaborations allowing for a more efficient and cost effective delivery of services.

Stability

The need to achieve stability and to reduce environmental uncertainty, is another contingency for collaboration (Oliver 1990). Organizations enter into collaborations to “achieve stability, predictability, and dependability in their relations with others” (p. 246). This contingency exists between organizations in which there is a perceived dependence on resources. Organization A would only enter into a collaboration on the basis of stability with Organization B, if Organization A believed that Organization B offered stabilizing benefits. Stated another way, organizations that are not dependent on each other for information, financial, or other resources would not engage in a stabilizing collaboration.

In the research area, some organizational directors perceived the domains of the health district and the planning district to be fairly distinct, with almost no area of overlap. In these districts, one would not expect to find collaborations based on the contingency of stability.

The contingency of stability relates to both resource dependency and transaction cost theories. An organization may depend on resources, such as information, anticipated funding streams, from external organizations, but this stability also effects the efficiency of an organization. If a collaboration fails and an organization must replace in-kind resources, the transaction cost for providing services might increase. Therefore, some organizations enter into collaborations to acquire and retain resources that stabilize the environment of the organization.

Legitimacy

Organizations enter into collaborations “to justify their activities or outputs” and “to appear in agreement with prevailing norms, rules, beliefs, or expectations of external constituents” (Oliver, 1990, p. 246). Oliver uses examples of inviting board members from reputable organizations in order to increase the prestige of the target organization. This contingency is evident when an organization wants to expand its sphere of influence into another domain. Collaboration on the basis of legitimacy requires that one organization have greater legitimacy in the field into which the target organization wants to expand into.

In the research area, the two spheres of influence are regional planning and public health. A PDC that wants to engage in projects with a strong public health focus depends on the support and approval of the local health district. Without this endorsement of legitimacy, the PDC may expect to receive minimal support from funding sources, citizens, or other health organizations for the PDC’s projects. Conversely, a health district interested in a project within the domain of planning can enhance its position with support from the PDC.

The results of the case studies show that reciprocity, efficiency, and legitimacy are the significant contingencies for collaboration between health districts and PDCs in southwest Virginia. Stability was minimally evident, and there was no suggestion of asymmetry. As the discussion above explained, I did not expect to find asymmetry between the PDCs and the health districts because their organizational structures are distinct and the relationship between the two groups is horizontal rather than vertical.

The next step is to define the nature of the collaboration between health districts and PDCs. Oliver applies the contingencies for collaboration to six different types of relationships between organizations. The characteristics of the relationship shape the nature of the

contingencies that motivate the collaboration. Table 3 below provides the general characteristics and definitions of each type of relationship.

Table 3. Characteristics and Definitions of Interorganizational Relationships

TYPE OF RELATIONSHIP	GENERAL CHARACTERISTICS	DEFINITION
Trade associations	<ul style="list-style-type: none"> • Horizontal • Voluntary, private sector 	Organizations which “promote the interest of their members, make members’ viewpoints known to government, and lobby public-policy makers to achieve favorable legislation” (p. 250)
Voluntary agency federations	<ul style="list-style-type: none"> • Horizontal • Social service sector 	Organization in which “members or affiliates delegate certain administrative tasks to a central management organization” (p. 252)
Joint ventures	<ul style="list-style-type: none"> • Horizontal or vertical • Voluntary, private sector 	Partnership in which each party intends to “enhance their market power and to improve their competitive position against rivals” (p. 254)
Joint programs	<ul style="list-style-type: none"> • Horizontal or vertical • Social service sector 	“Two agencies work jointly in planning and implementing specific programs or activities” (p. 255)
Corporate-financial interlocks	<ul style="list-style-type: none"> • Vertical • Voluntary, private sector 	A relationship in which “corporations strive to reduce uncertainty by co-opting external representatives to sit on their boards of directors” (p. 256)
Agency-sponsor linkages	<ul style="list-style-type: none"> • Vertical • Social service sector 	Defined by a “regularized flow of essential resources to a voluntary organization, regardless of the degree to which ties are formalized in written agreements, contracts, or other legal arrangements” (p. 257)

Source: Oliver, 1990.

The relationship type most applicable to the relationship between health districts and PDCs in southwest Virginia is the joint program. The joint program relationship is found commonly in the social sector and can be either a horizontal or vertical relationship. Planning district commissions and health districts exist within separate units of government and therefore have a horizontal relationship, rather than a vertical relationship with one another; one is not directly dependent on the other for financial security or authority. Conversely, local jurisdictions have a vertical relationship with PDCs and health districts as the local governments provide a portion of the funding necessary for the functioning of the respective organizations. As the

PDCs and health districts have a horizontal relationship, collaboration is not required. However, cooperative projects between the two organizations may augment the position of each.

Oliver synthesizes the literature on collaboration and provides the following examples of contingencies based on collaborations based on joint program relationships.

1. **Asymmetry:** Exert control over access to resources
2. **Reciprocity:** Facilitate exchange of clients or personnel
3. **Efficiency:** Reduce costs of social service delivery
4. **Stability:** Share risks in mounting new programs
5. **Legitimacy:** Demonstrate norms of cooperation

(Oliver, 1990, p. 249)

It is necessary to understand that in the case of southwest Virginia, collaboration between PDCs and health districts is a voluntary effort. Because of the organizations voluntarily collaborate, the relationship between local health districts and PDC are most closely aligned with the relationship that Oliver defines as joint program, as health districts and PDCs are public organizations in the social sector that function independently of each other creating a horizontal relationship.

Summing up, this chapter has provided the tools for understanding collaboration by introducing two theories and one framework. Resource dependency theory suggests that organizations enter into collaborations because they need external support from external resources. Transaction cost theory claims that collaborations reduce an organization's internal cost of project management. Oliver's frameworks presents a functional approach for diagnosing the collaborative efforts between organizations. The following chapter will examine the history and role of planning and health in Virginia.

Chapter 4

The Infrastructure of Planning and Health in Virginia

Although planning and health have a long history within the context of the nation, the two have only a budding relationship within the context of Virginia. Virginia's state board of health, founded in 1872, is the oldest in the nation. In 1908 the General Assembly established the Virginia Department of Health (VDH) to oversee public health concerns in 135 cities and counties (Hershey, 2001; JLARC, 2000). In comparison, the history of planning organizations in the commonwealth is young, dating from 1968 when the General Assembly established the Virginia Association of Planning District Commissions (VAPDC) (JLARC, 1995). A review at both the state level and the regional/local level provides an understanding of the context of these organizations in Virginia.

Public Health Delivery

The Code of Virginia established the organizational structure for public health in the commonwealth to ensure “the protection, improvement and preservation of the public health” (Code of Virginia 32.1-2). The mission of the Virginia Department of Health (VDH) is “to equip Virginians to achieve and maintain optimum personal and community health through promoting healthy behaviors, preventing disease, and improving the environment” (Glasheen, 2002). In order to achieve these goals, the Virginia Department of Health,

shall administer and provide a comprehensive program of preventive, curative, restorative and environmental health services, educate the citizenry in health and environmental matters, develop and implement health resource plans, collect and preserve vital records and health statistics, assist in research, and abate hazards and nuisances to the health and to the environment, both emergency and otherwise, thereby improving the quality of life in the Commonwealth (Code of Virginia 32.1-2).

The organization of VDH is a centralized system in which mandates, finances, and authority come from the central office in Richmond (JLARC, 2000). The VDH established local health districts and departments in 1947. Each jurisdiction has a local health department and, in some regions, local health departments are aggregated into local health districts for the efficient delivery of services. In total, VDH has 35 local health districts composed of clusters of counties or independent municipalities.

The Virginia General Assembly mandates that the health districts must have programs that address communicable disease control, child health services, maternal health services, family planning services, quality health care, environmental health services, and, recently, emergency preparedness. Environmental health services have the most well-established links to the services of the PDCs. Environmental health services include a broad spectrum of target areas that relate to regional planning, but the common services are water-supply sanitation, wells, and inspection of sewage treatment plants.

Health districts may also develop program areas not mandated by the legislative body in Richmond. Interviews with the district directors in southwest Virginia identified two recurring themes: emergency preparedness and access to health care and pharmaceuticals. Emergency preparedness is a national directive but programs that improve access to medical care are solely local initiatives. Directors may elect to address specific health issues of the district. The Lenowisco district has some of the highest rates of diabetes and heart disease in Virginia. To combat this, the health director developed an program to provide pharmaceuticals at a cost affordable, or free, to the district residents. In the Mount Rogers district, a rural district with a low population density, the PDC has worked on providing a hospital to an underserved community while the health district utilized a mobile mammography unit to screen women who were unable to attend the clinics. While there may be a high demand for local programs that target the immediate needs of a community, the General Assembly may not sustain this initiative with funding or support. For the examples I just provided from the Lenowisco and Mount Rogers districts, the respective health districts and PDC had partners, but not necessarily with the complementary PDC or health district organization within the district.

Planning District Commissions

The commonwealth of Virginia established planning districts commissions in 1968 “to encourage and facilitate local government cooperation and state-local collaboration in addressing on a regional basis problems of greater than local significance” (Code of Virginia 15.2-4207). Twenty-one PDCs exist in Virginia today, and their roles vary by PDC. In 1995 the Joint Legislative Audit and Review Commission (JLARC) published a *Review of Regional Planning District Commissions in Virginia*. This report defined 16 services under two functional areas

found among the PDCs across Virginia. Table 4 provides a summary of services provided by the PDCs within the study area.

Table 4. Services Offered by Planning District Commissions in Southwest Virginia, 2002-03

	Lenowisco	Cumberland Plateau	Mount Rogers	New River Valley
FUNCTIONAL AREAS				
Local Planning and Technical Assistance	●	●	●	●
Transportation Planning	●	●	●	●
Environmental Planning	●	●	●	●
Waste Management/Landfill Planning	●	●	●	
Economic Development	●	●	●	●
Housing	●	●	●	●
Human Services Planning	●			●
Recreation Planning	●	●	●	
Emergency Preparedness Planning	●	● ^a		●
Criminal Justice Planning				
Public Works Program	●	●	●	
Regional Procurement			●	
Natural Hazard Mitigation Planning			●	
Revolving Loan Fund			●	
SPECIFIC ACTIVITIES				
Information and Data Dissemination	●	●	●	●
State and Federal Grant Application Assistance	●	●	●	●
Grants Management	●	●	●	●
Intergovernmental Review Process	●	●	●	●
Legislative Liaison Activities	●	●	●	

^a PDC director did not denote that Emergency Preparedness Planning was a current project, but in the interview this is clearly identified as the one joint project area with the health district.

Source: JLARC, 1995, p 10³.

The sections below group the public health related PDC services into the areas for regional planning as defined by Burchell and Sternlieb in Chapter Two.

³ The 1995 JLARC report provided the structure for this table; the current PDC directors provided the recent data.

Physical

The areas concerned with physical planning are environmental planning; waste management/landfill planning; public works program; housing; recreation planning; and emergency preparedness. The first three areas control for man-made and natural hazards, chemical and biological contamination, and water-borne infectious diseases. Significant projects in this area include natural hazards mitigation, the provision of public water to a community, and the evaluation of septic systems. PDC projects related to housing consist of repairing or replacing dilapidated homes. In southwest Virginia these projects often relate to the provision of public water and the evaluation of wastewater treatment. Recreation planning consists of preserving natural environments through the administration of grants to provide recreational opportunities within the jurisdictions. In addition to providing a venue and opportunity for leisure activities, recreation planning can lead to increased physical activity and its correlation to reduced chronic diseases. Emergency preparedness, while connected to physical planning with its focus on the physical structures to prevent flooding, also has a strong relation to policy planning. This description of PDC activities in physical planning provides a context for understanding the delineation of these services, but also shows the commonalities of a service to different planning areas. The difficulties in classifying planning services extend to the challenge of classifying of planning services vis à vis public health services.

Social

Social planning, according to the Burchell and Sternlieb (1979) definition, extends to advocacy planning and promoting social justice. Legislative liaison activities and similar opportunities to lobby for social services fit this definition, but one could say that the services offered in the realm of physical planning and economic development also meet the objectives of social planning as they minimize the disparity among groups within the jurisdiction through physical and economic improvements in the community.

Economic

Economic planning encompasses a broad scope of activities. Clearly, economic planning includes economic development, but this planning area also includes state and federal grant

application assistance and grants management, which provide funding for economic development projects and for other projects.

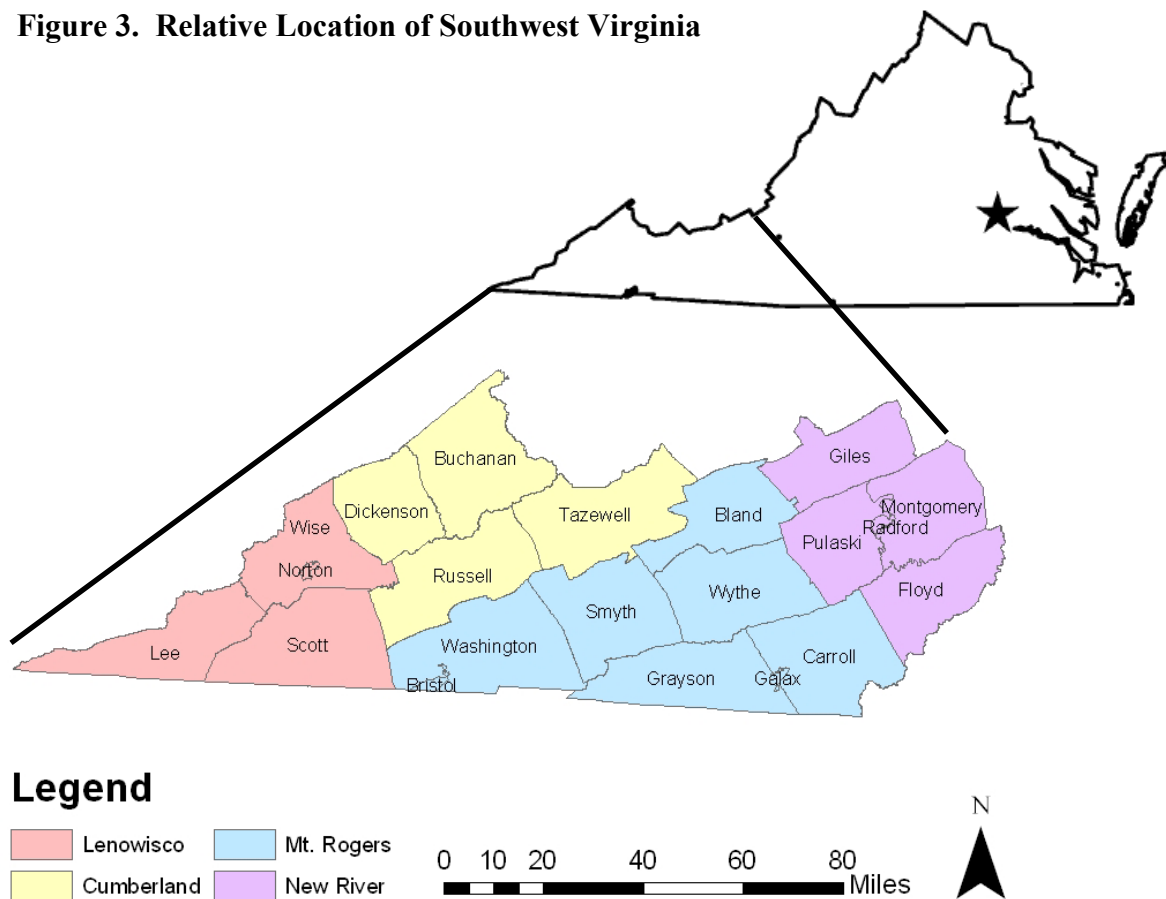
Policy

The area of policy planning “involves the introduction of knowledge and structure to the decision making process [and] . . . the linkage between knowledge and action such that decisions, properly made, stand a reasonable chance for implementation” (Burchell and Sternlieb, 1979: p. xl). The activity of “information and data dissemination” from Table 4 provides the means to enhance the quality of information at the PDC and other organizations. The function of legislative liaison activities at the PDC provides a reciprocal path for information flow between local organizations and the General Assembly. Finally, emergency preparedness planning ensures the appropriate implementation of local resources for effective strategies to manage man-made and natural disasters.

The primary purpose of PDCs is to foster collaboration among local governments and between the local governments and the state, for the physical, social, and economic benefit to the district. The collaborative process defined by the legislature requires PDCs to include community stakeholders within improvement projects for the district, but this does not occur at a uniform rate, at least in southwest Virginia. The data show that directors have interpreted the purpose stated in the enabling legislation differently. Some directors employ a strict interpretation of the goals for the PDC while other directors have interpreted the legislation broadly.

Southwest Virginia

Figure 3. Relative Location of Southwest Virginia



The study area includes the four districts of southwest Virginia in which the jurisdictional boundaries of the health district and the planning district commission encompass the same service areas. These districts include Lenowisco, Cumberland Plateau, Mount Rogers, and New River. While these four districts are distinct on a micro level, in comparison to state-level statistics, the districts share common characteristics. Table 5 shows that in comparison to state data, southwest Virginia has a lower population density and median household income, has higher unemployment and poverty, and generally has a greater percentage of workers employed by agriculture. Table 6, derived from the Virginia Department of Health Center for Health Statistics, reveals that of the 12 health outcomes, southwest Virginia has higher mortality rates than the state in nine categories, has infant death rates comparable to the state, and has lower rates of septicemia and homicide.

Table 5. Comparison of Census Data between Virginia and Southwest Virginia, 2000

	Pop	Square Miles	Density	Median Household Income	Unemp-loyment	Industry						Poverty- Family	Poverty- Individual
						Agriculture	Manufacturing	Retail	Educ.	Arts	Total		
Virginia	7,079,407	39,594	178.8	\$46,677	2.70%	1.30%	11.30%	11.40%	18.30%	7.20%	49.50%	7.00%	9.60%
Lenowisco	91,019	1,386	65.67	\$24,812	7.10%	7.53%	11.70%	13.28%	22.93%	7.30%	62.73%	17.10%	20.88%
Cumberland Plateau	118,279	1,831	64.60	\$24,946	7.88%	12.33%	10.28%	13.28%	21.33%	4.23%	61.43%	15.35%	19.03%
Mount Rogers	190,020	2,777	68.43	\$30,044	4.58%	3.23%	28.80%	12.68%	17.75%	6.19%	68.64%	10.14%	27.13%
New River	165,146	1,457	113.35	\$31,474	5.26%	1.78%	22.94%	11.20%	26.38%	7.68%	69.98%	8.28%	22.23%

Source: U.S. Census Bureau 2000. Aggregated to district level using county and town data.

Table 6. Comparison of Health Outcomes between Virginia and Southwest Virginia, 2000

County	Population	Death from all Causes				Chronic Disease				Uninten- tional Injury	Pneumonia and Influenza	Diabetes	Suicide	Septicemia	Homicide
		Infant Death	Heart Disease	Malignant Neoplasms	Cerebro-vascular Disease	Lower Respiratory Disease									
Virginia	7,078,515	792.5	6.8	214.7	190.4	57.6	39.7	33.3	21.3	22.0	10.9	15.5	6.3		
Lenowisco	91,019	1254.7	11.0	360.4	293.3	78.0	72.5	64.8	36.3	36.3	30.8	20.9	7.7		
Cumberland Plateau	118,279	1039.1	6.8	296.8	212.2	68.5	76.1	55.0	33.8	33.8	21.1	19.4	9.3		
Mt. Rogers	190,020	1153.6	5.3	329.4	260.5	76.8	75.8	48.4	44.2	34.2	16.3	11.1	3.7		
New River HD	165,146	825.9	4.2	226.5	176.8	66.6	55.7	41.2	26.6	25.4	10.3	9.1	3.6		
SW Virginia Averages	473,445	1068.3	6.8	303.3	235.7	72.5	70.0	52.3	35.2	32.4	19.6	15.1	6.1		

Source: Virginia Center for Health Statistics 2000. Aggregated to district level using county and town data.

This chapter has explained the roles of regional planning and public health in Virginia and in southwest Virginia. Twenty-three PDCs facilitate regional planning by working with a variety of public and private agencies on services considered physical, social, economic, and policy planning. Thirty-five health districts across the state work to maintain the public's health through projects in the mandated areas of communicable disease control, child health services, maternal health services, family planning services, environmental health services, and quality health care. In the final section of this chapter, I presented the research area of southwest Virginia. In this unique region of the state the borders of the PDC mirror the borders of the health district providing an ideal environment for studying collaboration for the benefit of a common population. Chapter Six contains more detailed information about southwest Virginia that will illustrate the micro-level distinctions among the districts.

Chapter 5

Research methods

The process of collecting data for this research project provided a deeper level of understanding the micro context of each health district. I collected data through two means: traditional library research and interviews. The interviews with directors were conducted at the organization, with one exception, and the experience of traveling to the site afforded a first-hand view of these districts. This unexpected opportunity corroborated much of the demographic data derived from the U. S. Census, particularly the population density and the predominant industries.

The interviews with the directors allowed me to collect verbal data about the working relationships between the health districts and PDCs but also to see first-hand the limitations of geography and topography on personal communication in southwest Virginia. A more specific explanation of the research methods and their connection to the research objectives follows.

Objectives

Objective 1. To document projects and programs of PDCs and local Health Districts that relate both to physical/environmental planning and health.

Objective 2. To understand the level of interorganizational collaboration between PDCs and health districts as shown in physical/environmental health programs.

Objective 3. To determine to what extent joint physical/environmental health planning programs by the PDCs and health districts reflect Oliver's contingencies for collaboration.

Methodology

The purpose of this research is to determine to what extent Oliver's (1990) framework for interorganizational collaboration explains the relationships between southwest Virginia's PDCs and local health districts. In order to apply this framework, I conducted four instrumental, descriptive case studies of each jurisdiction (Berg, 2001). I used Carmin and Bohland's (2002) model of the nexus between planning and health and Oliver's contingencies for collaboration to guide my study of collaboration within southwest Virginia. The results from the case studies can be applied to strengthen or refute these frameworks. Oliver's theoretical explanation of

interorganizational relationships guided the descriptive case study while the instrumental component will be to refine the framework. After collecting the data, I grouped the districts from highest number of collaborative projects to the lowest number of collaborative projects. The overlay of this outcome to the theoretical framework will provide a better understanding of the relationship between regional planning and health in southwest Virginia.

Sample

I chose four districts to be included in the case study based on the following criteria:

1. Rural districts with similar health outcomes to eliminate variation due to urban development or varied health issues.
2. Districts in which the health districts and PDCs have matching territorial boundaries.

I have chosen four PDCs and health districts in southwest Virginia that meet these requirements. As shown in Figure 3, these districts are Lenowisco, Cumberland Plateau, Mount Rogers, and New River (Valley). The unit of analysis is the organization, either the PDC or the health district.

Method 1. Review of Public Archives to Document Joint Programs

Prior to conducting interviews with the directors of the organizations, I gathered data from publications produced by the two types of organizations. These documents included annual reports, annual budgets, community health report cards, newsletters, and websites produced by the agency that identify current programs, services, and partners of the organization. The purpose of this initial research was to distill environmental health-based projects within each agency that relate both to regional planning and to public health. Since environmental health is commonly known to both groups, I used it as a springboard to inquiring about collaboration in other areas. According to the JLARC report of PDCs, environmental health touches on the following project areas: local planning and technical assistance, information and data dissemination, grants, environmental planning, waste management/landfill planning, housing, recreation, public works, and possibly transportation (JLARC, 1995). Within health districts, I initially focused on the environmental health division and housing division for programs relating to the physical/built environment.

Oliver (1990) defines joint programs as programs that “occur when two agencies work jointly in planning and implementing specific programs or activities” (p. 255). As the intent of this study is to determine current levels of collaboration or potential levels of collaboration, I will review reports from the year 2000 for indications of joint planning and service implementation. This time frame allows a connection to the Census data and health statistics data. The most recent year in which the available data coincide is 2000. Not only was this time frame most recent, but I expected to collect the best data through interviews and public documents about current projects because the memory of recent projects was fresh.

Appendix A has a list of specific questions that guided my review of public documents produced by the organizations. While I originally planned on investigating funding sources for incentives to collaborate, I did not pursue this line of questioning because of the difficulty in obtaining comparable data.

Method 2. Review of Public Archives and Semi-Structured Interviews to Gauge Interorganizational Relationships

In addition to documenting projects between PDCs and health districts, I reviewed the public archives for references to collaboration, looking for signs of “transactions, flows, and linkages that occur among or between an organization and one or more organizations in its environment” (Oliver, 1990, p. 241).

The second portion of the method was to conduct semi-structured interviews with the directors of the PDCs and the health districts, following Berg’s (2001) guidelines for the “semistandardized interview” (p. 70). The interviews included questions about the current level of collaboration, the costs and benefits of collaboration, and perceived barriers to collaboration (Appendix B).

I mailed a copy of the survey to the directors before I conducted an in-depth interview with them. Prior to conducting the interview, I sent a letter of support signed by two members of my committee, chair Dr. Joseph L. Scarpaci and committee member Dr. James R. Bohland, (Appendix C). Then, I mailed a letter that explained my research purpose and requesting a personal communication, Appendix D. In my follow-up phone call to the organization, I answered questions the directors had about the research and set the interview time. Appendix E

includes a methodology matrix that relates the research questions to the review of documents and the interviews. At the interview, each director read and signed the Informed Consent for Participants in Research Projects Involving Human Subjects, as shown in Appendix F. I pointed out to each director that as their leadership role in their district was integral to my research, I could not guarantee confidentiality or anonymity. However, if he or she wanted to speak off the record, the director should notify me and I would turn off the tape and would mask comments incorporated in the final thesis by the use of the third person. No director asked to speak off the record.

Method 3. Semi-structured interviews to flesh out the contingencies for collaboration

The semi-structured interviews addressed both objective two and objective three. Objective three examined the existence of the six contingencies for collaboration as defined by Oliver (1990). These contingencies are necessity, asymmetry, reciprocity, efficiency, stability, and legitimacy. More than half of the questions in the open-ended interview instrument ask the directors to expand on the resources of their respective organizations and to comment on why joint programs exist or do not exist. The outcome of this method explained whether relationships existed between PDCs and health districts in the same jurisdiction using Oliver's contingencies.

The process of conducting the eight, one-time interviews with the directors of the PDCs and health districts produced data rich with information about project areas, past relationships, and opportunities for future collaboration. However, I faced the limitations of time and finances that prevented me from garnering all of the material that would be pertinent to this study. While I, within my semester of researching and writing this thesis, did not have the time to travel to each location twice, my sense is that the directors themselves may have had difficulty making time for an additional meeting. For the directors of health districts, this was the time for the implementation of their smallpox vaccination plan and I had a difficult time arranging the interviews for this project. I also found it difficult to arrange meetings with two PDC directors, although I was not able to explain this with a consistent reason⁴.

⁴ Ideally, I would have liked to conduct two rounds of interviews to ask follow-up questions, and to ask questions about claims made by the director of the complementary organization within each district. For example, if in

The review of public documents was less useful than I anticipated because the availability of publications was inconsistent for each organization in all four districts. In the most ideal situation, the organizations had posted on their website annual reports, project descriptions, and newsletters. Nonetheless, other organizations did not compile annual reports regularly nor were there project documentation in printed or electronic forms. For this reason, I depended almost entirely on the interviews with the directors for information about the collaborative projects between the health district and planning district.

District A, the health director commented that the PDC had refused all advances for partnerships in any area except water-related issues, the opportunity to question the PDC director about this matter would have been valuable.

Chapter 6 Findings

The purpose of this research was to document the collaboration between health districts and PDCs in southwest Virginia using the connections between the two disciplines and the contingencies for collaboration as guiding models. The discussion has included the nexus of planning and health, collaboration theories, and the environmental context of the organizations and the districts. This chapter reviews in depth the findings from each district. Table 7 summarizes the extent of collaboration and provides a snapshot of the environmental context for each district. Further details of the interview data may be found in Appendix H.

After reviewing the gamut of projects and degrees of collaboration, I grouped the four districts into high and low levels of interorganizational collaboration between the health district and the PDC. A high level of collaboration means that the health district and PDC collaborated on several projects and that these projects came from multiple program areas. “High” also denotes a propensity to collaborate with the complementary organization. Low levels of collaboration denote few or no joint programs between the health district and the PDC within a district or a reluctance to collaborate with the complementary organization, or both. The lack of collaboration between these specific organizations did not necessarily preclude collaboration with other organizations in the district.

The Lenowisco and Cumberland Plateau districts had the lower levels of collaboration in the research area while the Mount Rogers and New River (Valley) districts had the highest level of collaboration. In the districts with fewer joint projects between the health district and the PDC, the projects had a narrow focus and related to physical planning or emergency preparedness. The joint projects in the districts with more collaboration related primarily to physical, social, and economic planning, with some social planning.

All the directors identified water-resource issues as common to both regional planning and public health, although only two districts have current projects with both the PDC and the health district organizations as active partners. Each organization appeared confident in providing professional or technical expertise, or both, on their relative subject matter, either health or planning. Most of the planning districts identified their GIS and mapping capabilities as a useful tool in health districts. All health districts recognized the value of the PDCs’ map-

making capabilities. Every director identified time as a cost to collaboration. Time generally had a human resource connotation, referring to staff time dedicated to pursuing, establishing, or sustaining collaborations. Time also referred to the resources required to maintain the current mission and projects of the partner organization.

Table 7. Summary of Districts, General Characteristics, and Levels of Collaboration

DISTRICT	DEMOGRAPHICS/HEALTH OUTCOMES	LEVEL OF COLLABORATION
Lenowisco	<ul style="list-style-type: none"> • Low population density with rather high unemployment • Jobs in education, retail, and manufacturing • Highest mortality rates in eight categories; evidence of strong need for health services 	<ul style="list-style-type: none"> • Health district active in multiple collaborations, but has not identified PDC as significant contributor • Some collaboration below the director level on water issues, • PDC views health district as a source of credibility; health district views PDC as source of data • health district want better economy to boost health status
Cumberland Plateau	<ul style="list-style-type: none"> • Lowest density, highest unemployment, low household income • Jobs in education, retail, and agriculture 	<ul style="list-style-type: none"> • Virtually no collaboration, outside of bioterrorism planning • health district director very motivated, interested in collaboration; 1 year on the job • PDC director does not see any connection between health and regional planning; 30 years on the job
Mount Rogers	<ul style="list-style-type: none"> • Population density similar to Lenowisco and Cumberland Plateau, but household income and unemployment similar to New River • Jobs predominantly in manufacturing, retail, and education • Mortality rates average to high in southwest Virginia 	<ul style="list-style-type: none"> • Broad awareness of opportunities to collaborate with the other • Areas of collaboration include educational outreach, land use planning guidelines, and water and sewer • Recognize the other as a means to strengthen authority, legitimacy • Recognize the connection between economic development and improved health status

DISTRICT	DEMOGRAPHICS/HEALTH OUTCOMES	LEVEL OF COLLABORATION
New River	<ul style="list-style-type: none"> • Highest population density, household income, • Average unemployment for southwest, higher than state average • Most jobs in manufacturing and education • Lowest rates of mortality compared to southwest districts 	<ul style="list-style-type: none"> • Highest level of historical and active collaboration. • Highest awareness of the other’s projects, although not entirely up-to-date • Directors view the other organization as helpful or essential to the fulfillment of their own mission <ul style="list-style-type: none"> ○ Broad interpretation of “quality of life” ○ Not attached to “turf issues”

The following sections are broken down by district, organization, and interview responses. The purpose of these sections is to discuss the micro context of the district and to present the results of the interviews with the directors of the health districts and the PDCs. Within the discussion of both the PDC and health district of a regional district, I have included the following two subheadings for the interview responses: Current Projects and Collaborations and Obstacles, Costs, and Benefits. The organizational subsection provides information about the interview setting, particularly the perceptions of the director towards the complementary organization and towards collaboration with this organization. Current Projects and Collaboration explains the current projects related to the reciprocal field. For example, to PDC directors, I asked what projects related to health and vice versa. This subsection also discusses the partners the target organization has the skills and resources that the organization can contribute to collaborative projects. Last, this subsection reveals whether the organization is currently collaborating with the complementary organization in the district, and if so, on what projects. The subsections on Obstacles, Costs, and Benefits discuss the limitations the organization’s director perceives of collaboration and the benefits the organization might receive through collaboration.

Lenowisco

The Lenowisco district consists of the four jurisdictions: the counties of Lee, Scott, and Wise, and the town of Norton. The district is in the extreme southwest corner of Virginia. The total population is approximately 91,019 and the population density is 65.7 people per square mile. In

comparison, the statewide population density is 179 people per square mile. The district is rural with the top industries being manufacturing, agriculture, and education. Although some employment opportunities exist, unemployment overall remains high at over 7 percent, and the median household income is one of the lowest in the southwest region.

In terms of its relative location, this district in Virginia is closer to six other state capitals than it is to Richmond. In addition, this district has the distinction of having district borders with Tennessee and Kentucky. While the Mount Rogers district shares borders with two states, Lenowisco shares more of its territorial boundary with other states than with Virginia. This fact impacts the nature of collaboration that is distinct from other districts.

Health District

Dr. E. Sue Cantrell is the director of the Lenowisco Health District. She was willing and open to talk about the activities of the health district, and she prepared, following my request, public documents about the activities of the organization. The health district director gives strong attention to the collaborative process. This attention is evident in the publications of the health district. The focus of a recent edition of the district newsletter is coalition building within the district, primarily to target “a specific disease such as diabetes, cancer, asthma, or heart disease” (Lenowisco Health District, 2002, p. 1). The health district values collaborations because they maximize resources, reduce duplication of services, and broaden the understanding of the goals and missions of numerous projects.

Prior to attending medical school, Dr. Cantrell was a pharmacist. She has worked with the Virginia Academy of Preventive Medicine and Public Health and is also affiliated with the American College of Occupational and Environmental Medicine. Dr. Cantrell has been the director of the Lenowisco Health District since 1991.

Current projects and collaborations.

The projects of the Lenowisco Health District that relate to regional planning are emergency preparedness, alternative sewage disposal, infectious disease surveillance, immunization, minimizing unintentional injury, and the prevention of chronic diseases such as cardiovascular disease, cancer, and diabetes. Another key project is the Pharmacy Connect program that provides pharmaceuticals to indigent residents.

I commented to Dr. Cantrell that it seemed as though her projects seemed to target direct, primary care activities rather than indirect, broader preventative services or community health projects. I used the campaign to encourage people to eat more vegetables through the Five-a-Day Plan as an analogy. Dr. Cantrell's response was that in Lenowisco she faced the reality that "no one could afford to buy those five [vegetables] a day, and you just figured out a way to help them do that" (personal communication, February 21, 2003).

The health district is involved with numerous projects with partners ranging from community organizations to state agencies. A unique trait of the partnerships in the Lenowisco district is that many of the partners are agencies, universities, and other organizations from Tennessee and Kentucky. These states border the Lenowisco district, and the free movement of citizens across state lines at the district's edge makes interstate collaboration advisable. One example of this is the need to collaborate with organizations in Tennessee to address public health needs in Scott County. This county in the southeast portion of the district does not have a hospital. Most of the residents of Scott County travel to neighboring counties for medical care, and often the residents drive southward to Tennessee. Therefore, it's logical for Dr. Cantrell to collaborate with organizations in Tennessee to address the exodus of residents and the lack of primary medical care within her jurisdiction.

In collaborations with the PDC, the Lenowisco health district offers a base of knowledge, particularly about the health issues of the community. Another skill provided by the staff of the health district is the organization's ability to incorporate evaluation and outcome measuring to plans. This project management style promotes the accountability required by many funding agencies.

The planning district commission is not a significant partner of the health district, although the director mentioned that the PDC was involved in the initial stages of the emergency preparedness and response project and the alternative sewage disposal project. When asked why collaboration was not a priority between the Lenowisco health district and the PDC, Dr. Cantrell said that part of the problem was an issue of objectives and goals.

That's (the issue of objectives and goals) part of it. . . We have a telemedicine sited, for example in Scott County; that's another project that has a few partners. And I was a little surprised when there was a telemedicine project going on headed and spear-headed by the planning district at one point a few years back. And it's my perception, and again it's just a perception, that we often realize when we stumble on a project that might have some common goals. . . . The perception that's carried around, or at least that I'm aware

of, was that they are about water and sewage issues and big community, block grant issues., and not so much about health issues away from getting sewage and water dealt with. So I was a little surprised when the telemedicine thing came out that way, because it just hadn't dawned on me that that was a project that would be of interest to the planning district.

Lack of knowledge about PDC projects and programs and perceived conflict of goals and objectives are the primary reasons why Dr. Cantrell has not considered the PDC a potential partner for the majority of the health district's coalitions. This interview also identified the PDC's independence of the health district. In recent years, the PDC had developed a telemedicine project without collaborating with the health district, signaling that the PDC did not need resources, stability, or legitimacy from the health district for this project.

Obstacles, costs, and benefits.

The one significant obstacle to collaboration with the PDC, according to Dr. Cantrell, is the lack of knowledge about the PDC. The health district does not know the priorities, goals and objective, or the mission of the PDC to pursue specific projects. When I asked how she came to know about the PDC projects and programs, Dr. Cantrell responded,

I know about what I read about in the paper, which usually is the community block grants that they're working on which is water and sewage. But aside from that, I don't really have a lot of knowledge of anything else that they're working on.

The one cost that Dr. Cantrell cited was time for strategic planning. Essentially, she would like to have more time "to sit down and figure out what everybody is doing and where a missing piece may come from and where [the] agency might be or fulfill that role of the missing piece." On the other hand, the director views the PDC as a source of data for the district, primarily about current demographics and subdivision statistics.

In general, Dr. Cantrell seeks out collaborative relationships with many organizations internal and external to the Lenowisco Health District

because we've always had to do that. That's because it helps get more done with resources that you have and you don't end up duplicating what someone else is trying to do. . . . If you're all about a similar ultimate outcome, then people earlier on kind of have an understanding of what everyone's doing and moving towards that desired end result, and can make the most out of the resources that we have.

At the conclusion of the interview, I asked Dr. Cantrell, “If I were a genie and could give you three programs to address the health needs of the Lenowisco Health District, what areas would you like to see addressed?” She responded:

education, economy. Improve education. . . higher educational attainment, and jobs. Health is about people who work and have jobs and have access to health insurance and therefore access to health care. [Currently in the district,] forty plus percent of our people over twenty-five with less than a high school diploma. If we had jobs, full-paying, full-time jobs with benefits and seventy-five percent of our folks have high school diplomas and twenty-five percent with college or some college comparable to the rest of the state, a lot of our health problems and health issues would be improved because people would have better access to care.

In short, improving the educational level and economy of the district would have a positive effect on the health of the district. While education is beyond the scope of this research, this quote demonstrates the perceived connection between economic development and enhancing access to health care. However, the PDCs could be indirectly concerned about educational levels in the community as these levels contribute to the quality of the work force and the ability to attract certain industries to the area.

During the interview, Dr. Cantrell made it clear that the scope of the health district’s projects was to include water issues and community block grants, not economic development. She also commented on the lack of information about PDC projects and objections, particularly that the PDC had developed a project for telemedicine, a project considered to be within the realm of the health district. This revelation that the health district has an interest in economic development, a program area within the realm of the PDC, and that the PDC has worked on projects such as the telemedicine project, a program with a clear health focus, emphasizes the potential for collaboration between these organizations. Therefore, there is some dependency on resources between the health district and the PDC, but a lack of communication has limited collaboration between these organizations.

Planning District Commission

Mr. Ronald Flanary, the director of the Lenowisco PDC for 12 years, has worked with the organization for 28 years. His academic background is in education, with additional management training in engineering. The Lenowisco PDC is involved in all functional areas and activities of PDC services, except for criminal justice planning. While the Lenowisco PDC has

not worked with the health district at the highest level, it has established a relationship with the district sanitarian to support water resource projects, by providing both potable water, and suitable treatment of wastewater.

Current projects and collaborations.

The main project areas of the PDC related to health are waste water treatment, public water and waste water planning, project development, project administration, and economic development work. Mr. Flanary describes the role of the PDC “primarily in the area of physical planning, nuts and bolts, brick and mortar” projects (personal communication, February 21, 2003).

Most of the community partners for these projects are at the local level: local governments and public service authorities. The PDC also works with financing agencies at the state and federal level. The staff of the PDC brings technical expertise on planning to collaborations. In addition, the PDC provides the resources and skills to find funds to keep local projects active.

Mr. Flanary did not speak about collaboration between the health district and the planning district at the director level. However, the PDC has worked with the district’s sanitarian over the years on projects related directly to water and sewer issues.

We’ve worked with the health district on issues like water testing from wells and springs, to help build a case for a particular water project to show that there is a public health issue. We’ve dealt with the health district on declarations where there was clearly an eminent threat to public health that might have awarded additional bonus points for a particular project.

The scope of collaboration between the two organizations has been limited because the health district and the PDC are “two separate agencies, same service area, kind of an overlapping collaborative mission in just a few areas.” According to Mr. Flanary, there is a collaborative relationship because

there’s a mutual interest there. . . . It wasn’t as if we had some strategic planning session and said we need to talk to the health district. It was just a logical place for us to partner with. They serve the same service area as us, they even have the same first name. . . . Two separate agencies, same service area, an overlapping collaborative mission in just a few areas.

Within this narrow area of overlap, the PDC works with the health district in a multi-step process to deliver health related services with a foundation in planning. When the PDC identifies an area in need of sewer improvements, it starts a dialogue at the grassroots level to understand the extent of the need for an improved infrastructure. Once the regional planners determine what improvements are needed, they call in officials from the health department to conduct the tests to verify the extent of the pollution. Although the PDC works with the health district to replace sewer systems, in truth, “neither the health district or the PDC are going to provide a public water and sewer system; it’s going to be a public service authority.” The function of the PDC and the health district is to engage in a collaborative process of “testing, and dialogue back and forth to help build a case, a technical case. . . builds a health related case.” Thus, the PDC relies on the professional skills and resources of the health district in order to maintain the legitimacy of the PDC’s projects.

We are at a loss at our office to build a health case, so if there’s a health issue, we naturally rely on the health district. They’re professionals, they speak to the issues of bacteriological contamination. I’m just a layman when it comes to that. I understand how many man holes you need in a sewage system, I understand fire flow regulations, I understand how many fire hydrants you have to have and what line sizes, I understand what a particular program would pay for and what it wouldn’t pay for, but I have no grasp on the health issues. And we’re not going to try to add that expertise, and there’s no need for it, so we’re going to rely on our allies with the health district.

Whereas the health district director did not discuss a dependency on the PDC, Mr. Flanary said he depends on the health district for technical resources and legitimacy.

Obstacles, costs, and benefits.

Mr. Flanary did not define any known obstacles to collaboration, but when asked about costs, he responded that billable staff time was a concern, but emphasized that the cost was not a financial issue but a time issue.

Finally, when asked how the PDC might benefit from working with the health district, Mr. Flanary responded that

the health district brings a great deal of credibility to the issue of why do you need public sewer in this area or why is a public water source preferable to this series of springs and wells. They bring a level of credibility that immediately takes it to a higher level. . . . The health district brings a great deal of credibility to that and frames those issues in a way that the public understands and grasps that it’s a health issue. . . . I think that if there’s a

health issue, and we need to quantify that, and legitimize why it's a health issue, the health district does that and they do it well.

In the Lenowisco district, the PDC works with the sanitarian of the health district, rather than with the director, in order to secure the testing and evidence for the need of well replacements and sewer installations. Although collaboration is at a minimum at this point, I see opportunities for further partnerships. According to Dr. Cantrell at the health district, the PDC has been working on a telemedicine project, related to the function of human services planning. The project provided access to health care to residents out in the community which fits the mission of the health department, yet the two groups have not collaborated in that area.

Cumberland Plateau

Located to the north of the Lenowisco district, the Cumberland Plateau district consists of four counties. In many respects, Cumberland Plateau is very similar to the Lenowisco area. The population density is as low and the unemployment rate is as high. However, in the Cumberland Plateau, more people work in agriculture, with other top industries including education, retail, and manufacturing, according to the 2000 U.S. Census. In terms of health, the outcome rates for this district are average, although within southwest Virginia, this district has the highest rates of chronic lower respiratory disease and homicide.

Health District

The current director of the Cumberland Plateau Health District, Dr. John Dreyzehner, has been at this position and in this location for approximately a year. In addition to his medical training with the Air Force and as an occupational medicine resident, Dr. Dreyzehner has a master's in public health. Prior to accepting the post as health district director, he served in the military and was the director of a local occupational health agency. While his lack of experience in the Cumberland Plateau district might explain the current lack of collaboration on a broad range of issues, his experience and the interview data indicate that he views collaboration as necessary and beneficial on multiple levels.

Current projects and collaborations.

Currently, the main collaborative project between the health district and the planning district commission is the bioterrorism preparedness plan. Mandated at the federal and state levels, the project is an effort to coordinate first responders and medical personnel in the event of a man-made or natural disaster while also safeguarding potential targets within the jurisdiction. The planning district has provided technical assistance by way of maps and GIS data to this effort.

We need better maps. We need a better way to figure out where things are happening and we don't have any ability ourselves to purchase or generate these maps. We have a real need to be able to plot locations of these incidences, whether it's TB or some type of gastrointestinal outbreak (personal communication, February 19, 2003).

Most directors identified specific skills and resources related to the practice of planning and health that they could contribute to the collaborative process. From Dr. Dreyzehner's standpoint, he has more to offer than professional knowledge of health and regional issues; he can also provide a philosophical perspective, the perspective of public health.

The philosophical perspective, I think that's as vital as the other two (technical and cultural expertise), and probably the least tapped into. Because when people are planning. . . public health issues, as critical as they are, are frequently not considered, and often to the hampering of the public planning effort. . . . The lessons are the same in community planning and in public health. When you start thinking of doing any kind of development, most people aren't thinking about the public or environmental health issues downstream, except as they have to comply with regulations, but it's not the first thing they think about.

Dr. Dreyzehner does not advocate regional planners becoming public health officials, but suggests that understanding the framework of public health may help planners to consider unintended consequences or long-term effects of a planning project.

The value of collaboration between planning and public health is the often overlooked contribution of good health to the economy. According to Dr. Dreyzehner,

public health undergirds the economic well-being of any society, and that's by extension, of any locality. . . . public health implications upon the economy are very much more difficult to quantify, [although] you can quantify certain things. You can quantify how many people have certain chronic diseases. . . you can look at the economic impact of those disease in terms of health care costs. . . or the inability to be productive contributors, so you can get some measure of both of the direct health costs and indirect health related costs as a result of decreased productivity and decreased tax bases.

This explanation of the interplay between health and regional planning reveals that the health of a community directly and indirectly affects the economic well-being of the community. Improving the health of the citizens can improve the economy by reducing “health care costs, improving productivity, and even strengthening the tax base.” Not only does this comment connect public health to regional planning, it connects public health to a non-physical component of the PDC mission: improving the local economy. While most directors identified environmental health as a component of both public health and regional planning, few specified the connection between health and the economy. The following section will show that the PDC director’s perception of collaboration between planning and public health is more limited and concretely defined.

Obstacles, costs and benefits.

Despite an energetic and positive view of collaboration, Dr. Dreyzehner defined legal, political, and psychological barriers to developing relationships from the public health perspective.

I think there are legal and political barriers, and where are you going to put those under? Those aren’t really financial barriers, they are not time barriers, they’re not really psychological barriers, although some of the legal barriers are psychological. Fear based, you know, rather than rational. You know, you’ve heard that you can’t do that or you’ve heard that you know, you know, you just don’t want to go there. You don’t want to learn about that, you don’t want to deal with it. So, I think, I think, legal and political probably needs to be considered there in terms of, uh, the costs, the potential costs of collaboration

This spring, the Health Insurance Portability and Accountability Act (HIPAA) came into effect and provides stringent guidelines on protecting patient confidentiality (OCR 2003). While the focus is on health insurance, the arm of HIPAA extends to a broad scope of patient information and has caused this director to be concerned about interagency collaboration. Another concern is the potential to be accused of malfeasance, defined by the American Heritage Dictionary to be “wrongdoing or misconduct especially by a public official.” This suggests that if a public official engages in a project that does not have the desired outcome, he is at greater risk than not having initiated a project at all. The litigious context of contemporary society is one barrier perceived by this health director.

Strongly related to the legal obstacles is a political barrier in that a director must be aware of “what people think and how we really can’t talk about” sensitive issues. Public health

officials are barred from providing unsolicited information about health issues to government officials “because that could be construed as lobbying.” Other health directors insinuated they manage to get around this restriction, which may be a function of their presence in the community and awareness of where loopholes lie. The psychological barrier is the manifestation of the legal and political obstacles. As a result of these obstacles, and the lack of time and human resources, Dr. Dreyzehner suggests that people develop an irrational fear of collaboration, that it is too difficult and cumbersome to overcome.

Overcoming the obstacles and costs of collaboration does have its rewards. The benefits from the PDC that the health district can use are the GIS and mapping capabilities and the philosophical perspective that makes the discipline unique.

Planning District Commission

Mr. Andrew Chafin, the Cumberland Plateau PDC director, is the veteran director in the study area, having worked as the director in this district for 34 years. Both his bachelor’s and master’s degrees are in urban and regional planning.

Current projects and collaborations.

Unlike Dr. Dreyzehner’s perspective at the health district, Mr. Chafin cited uncommon missions to be the obstacle that limits collaboration beyond the recent bioterrorism preparedness initiative.

There has not been a history, we take a different avenue, we’re all concerned with health, but our mission was economic. We were created to diversify the economy away from coal mining and to bring in new types of manufacturing. And that has been our mission and that’s what we’ve been entirely devoted to (personal communication, February 26, 2003).

In discussing the past projects of the PDC, Mr. Chafin said,

We’d do anything to help the community. We created a regional housing authority, we created a regional mental health authority, we’ve created a regional waste management authority. We created these things in order to provide services that people need. . . . All have led to improving the quality of life, but if a person doesn’t have a job, there is no quality of life.

The narrow mission of the Cumberland Plateau PDC to improve the quality of life through economic development has also allowed for diverse projects such as housing, mental

health, and waste management. In order to achieve its economic mission, the PDC has partnered with local governments to obtain grants to build industrial parks within the district. However, of the projects that have a connection to public health, namely the regional mental health authority, the PDC has not collaborated with the local health district. Mr. Chafin revealed, “Why haven’t we worked with the [health] districts in the past? Our missions have been entirely different, as you know.”

In an effort to market the industrial properties and buildings, the PDC has organized “a total community effort” which includes “the superintendent of schools, the mayor of the town, the county officials, and the industrial development members.” While the sales presentation may include an overview of medical facilities, no member of the health district has participated at this level.

The only thing that sometimes would come out would be the medical facilities, to have adequate hospitals and health care. And that would be a part of our presentation, the medical center, . . . but, no, in my thirty years I don’t ever remember a member of the health district sitting in on one of our presentations to a prospect.

Obstacles, costs and benefits.

When we talked about obstacles to collaboration during the interview, Mr. Chafin identified a difference between missions as a reason for the lack of collaboration.

The only obstacle I see is the difference, the seeming difference in our missions. For instance, we’re working on developing a big recreational project over in Dickerson county, and we’re trying to find the grants and loans and everything to develop that recreational facility. Well, where would there be a role for the health department in that? . . . So, the reason we haven’t collaborated is because our missions are so different that there didn’t seem to be first a need for collaboration, and second, any way that the health district could push that particular program forward.

He also mentioned that the time and human resource cost of collaborations make it difficult to justify the effort. For example, grant monies make up a large portion of the income of the PDC. As collaboration alone is not an income producing activity, the grants subsidize the resources needed to establish, manage, and sustain collaborative relationship. In the context of soft money funding sources, it is necessary to relate activities directly to the resources provided by a grant. Therefore, extensive collaboration can not be justified unless it is the direct purpose of a grant.

Despite a history of collaboration, Mr. Chafin predicted the need for emergency preparedness may bring the PDC and the health district to a collaborative agreement.

I think now, more so than any time in history, I think there's a need to be working with the health districts. The world situation, terrorism and all that, makes everybody more concerned about health and survival, and protection against chemical and biological things, et cetera. So I think the opportunity, or the time has now come where, for the planning district and the health district probably need to take a closer walk and I think this bioterrorism thing is making that happen.

The health district and PDC of the Cumberland Plateau do not have an extensive history of collaboration, although the interview data identified potential areas of collaboration. The health district director values the technical assistance the PDC can provide, and the PDC has engaged in several projects within the sphere of planning. To date, the perceived and real obstacles have prevented substantial collaboration between these two organizations.

Mount Rogers

The Mount Rogers district is the largest in the southwest Virginia region, encompassing over 3,000 square miles. Two towns and six counties fall under the jurisdiction of the Mount Rogers health district and planning district commission. This is a rural area, with a population density comparable to Lenowisco and the Cumberland Plateau. Within southwest Virginia, Mount Rogers has the lowest unemployment rate, with the largest percentage of jobs in manufacturing, education, and retail. The indicators of health outcomes show that the district has average mortality rates for the study area and has the highest mortality rate in only one category, pneumonia and influenza.

Health District

Dr. Craig Smith directs the Mount Rogers Health District, and has served in this position for more than twenty years. Prior to assuming the directorship, he was the Assistant Health Director in Mount Rogers. In addition to his medical training, Dr. Smith is also a Master of Public Health.

Current projects and collaborations.

The Mount Rogers Health District, has collaborated with the PDC on a broad variety of projects including developing a community center, consulting on land use planning for subdivisions, verifying water and sewage treatment needs, and coordinating a smallpox vaccination plan. A common thread among all these projects is an outreach component into the community. According to Dr. Smith, the health district collaborates with the PDC because

[The PDC] is seen as the planning entity in the area. And I think they have great legitimacy there to do that. They're also comprised of local government people. . . . Richmond's always fond of saying, you need to pay attention to your local needs out there, then when it comes time to toe the line, as far as state policy goes, that always seem to carry the day, as far as they're concerned. But I think they are the legitimate planners in the area. We look to them, quite often for that function (personal communication, February 19).

One area of collaboration between the Mount Rogers Health District and the PDC is the community health center, found in four locations throughout the district. Through these community health centers, the Mount Rogers Medication Assistance Program has been implemented as "a way to bring prescription drugs to low income individuals."

In terms of assisting the PDC with economic development, the health district provides information on water availability for potential industrial sites.

One of the closest things we do with the planning district commission is collaboration on land use plans and about economic development. And water and sewer is obviously very key, out here anyway. In many of these economic development plans, the first thing they'll ask is about water. Water availability.

One of the goals of the PDC is to improve economic development within its jurisdiction, and the Mount Rogers PDC meets this by developing industrial parks to bring new employers and a diversity of jobs to the area. Not only do additional jobs raise the average income and individuals' purchasing power for health services, but additional jobs may also provide greater access to health insurance to the residents of the district.

There's no question we have a lot of health needs here, and we have a lot of needs that are connected to either under or uninsured populations. It's very high here. And we've had significant job loss here which also means that insurance benefits go at the same time.

Another area of collaboration is to consult on the development of subdivisions. The PDC serves in a consultancy role, providing technical support on regulations and guidelines for land

use development, in conjunction with the health district. The health district provides information on the latest state regulations for drainage field size and specifications for septic systems, and this information is often channeled through the PDC.

In terms of what we said about economic development, and land use planning, lots of the local governments use the planning district commissions as the lead for when they want to improve or update a subdivision ordinance. For instance, they'll get the planning district commission to assist them with that. Some of them use consultants as well, paid consultants, but not so much in our area. They really rely on the planning district commission, and they [PDC] will always check with us about water and sewer in those particular areas and how that, if they change the ordinances this way or that way, what the effect is going to be. In consideration of the topography of the area, what's underneath. What kind of soil is underneath, what the drainage is.

Dr. Smith and his staff have the skills and understanding of health needs, local health care resources, and environmental health issues. In addition to these technical and professional capabilities, Dr. Smith said that the health district has the ability to “reprogram,” to adopt and modify existing programs as needed by the community.

Collaboration on the community center, the subdivision consultation, the water and sewer programs, and the smallpox vaccination plan are the main areas in which the health district works with the PDC. The health district pursues these opportunities in order to gain legitimacy by working with the PDCs, and also to offer legitimacy to PDCs. Dr. Craig said he views this as the first link in the chain that connects the health district to other partners and local governments. Staying connected to the PDC provides the health district an opportunity to stay connected to local issues.

Obstacles, costs, and benefits.

The collaborative relationship between the health district and the PDC is not always seamless. Dr. Smith mentioned that the PDC does not have an objective to be involved with health planning and this conflict of missions, or shifts in the missions, can cause some friction in the collaborative process.

I don't think [the PDC has] seen their role as so much being involved in health planning. I think they [focus on] bricks and mortar. Social services and health services, I'm not sure that's been what they really thought was their mission. I'm not saying at all that they would be reluctant, but I just don't think it's been seen as part of what their priorities are. . . . It's all bricks and mortar pretty much. Infrastructure development, and job formation.

When asked about the costs of collaboration, Dr. Smith cited minor costs associated with the allocation of staff time away from other projects to joint projects. Despite the current climate within the state for budget cuts, the health district has been fortunate enough to receive bioterrorism funds with which Dr. Smith can maintain the staffing levels needed to provide public health services to the community. If staffing levels fall below normal, then engaging in extracurricular partnerships will be relatively more costly in terms of human resources.

Dr. Smith recognized many benefits of working with the PDC:

I think that their strength is among other things that they know planning. They know planning better than we do, they know how to do it. They know how to structure it, they know how to [implement it]. . . . They certainly bring some people to the process that we couldn't. They have those kinds of contacts, so I think they're probably in many ways, you might say, an untapped source that ought to pay more attention to.

He anticipates benefiting from the PDC's library of maps, knowledge of the planning process, connections to resources, and capacity for grant-writing and grant management skills. The benefits of the capacity to be self-financing is not lost on Dr. Smith. Legends have developed around urban grant-writers that "earn their keep ten-fold in grants that they bring." But the issue is not so much with winning the grant, according to Dr. Craig, as with maintaining it. A collaborative effort with the PDC, in which both organizations share the costs of writing and then managing a grant, would provide additional resources to both organizations.

Planning District Commission

The tenure of Mr. Thomas Taylor, the director of the Mount Rogers PDC, mirrors Dr. Smith's tenure at the health district. Mr. Taylor has worked at the PDC for over thirty years and has been the director for more than twenty years. Mr. Taylor's undergraduate academic background was environmental health and his graduate work was in urban and regional planning. Prior to working at the PDC, Mr. Taylor briefly worked as a public health sanitarian.

Current projects and collaborations.

According to Mr. Taylor, the relationship between his agency and the health district has been supportive and collaborative.

The health district is providing services to local governments. They have a regional administration, and we want to be supportive of what they do. Because we work for

these local governments also. And, anything they need us to do, then, we want to be responsive to do that and try to be (personal communication, February 19, 2003).

To describe the collaborative relationship with the health district, Mr. Taylor said the connection between the organizations has been “natural. Our charge from the state is to have some responsibility to encourage the local governments to do these things.” This perspective has been augmented by Mr. Taylor’s academic background in environmental health and previous experience in public health, both of which may not be shared by all PDC directors.

In addition to identifying public water and wastewater projects as relating to health, Mr. Taylor also mentioned housing rehabilitation, indoor plumbing, and the provision of jobs as being health-related. The housing rehabilitation and indoor plumbing projects appear to be unique to this district and build upon the environmental health nexus between regional planning and public health that specifically promotes health by changing behaviors (Carmin and Bohland 2002). The indoor plumbing project addresses environmental health by improving the waste treatment on the respective property and reducing the environmental impact of untreated sewerage. Providing potable water within the home shifts the behavior of the inhabitants away from using untreated well water, thus reducing potential health risks. Rehabilitating dilapidated homes can also reduce the incidence of chronic illnesses associated with dampness and poor heating or cooling, such as asthma.

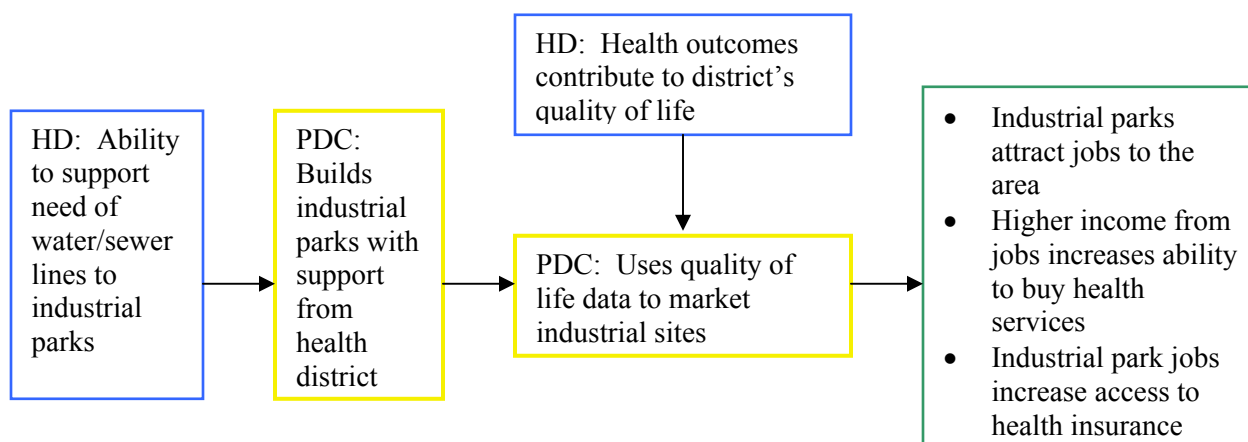
Another health-related project area, according to Mr. Taylor, is economic development. Health and economic development constantly have a reciprocal relationship. The health district assists the PDC in providing water and sewage systems to industrial sites. While the PDC has the ability to provide technical specifications and needs of the infrastructure, it relies on the health district to provide documentation on the biological specifications of the infrastructure. Once the industrial complex has been developed, the PDC markets the industrial property using quality of life issues of the district.

Another hat that we wear is that we have an interest in economic development. The quality of life in this region is one of the things in economic development that when people are looking to invest, to locate a Wal-mart, or to build a factory, those investors, they look at an area where they’re going to make their investment because they’re going to have their employers working. So, we have a vested interest in the quality of life being good, in this whole region. . . . We have sort of a history and some of it came from identifying those quality of life barriers, and then getting local governments and people to understand what needs to be done to address those.

If you say the provision of jobs, if that's related to health, then we're working to get water systems and sewer systems and facilities into industrial parks, to get industrial parks established. . . But, you could say that is a tangential kind of relationship than is more like for mental health but not directly related to health.

As the health of the population contributes to the quality of life, the PDC again depends on the work of the health department to sustain a quality of life deemed desirable by potential employers. Figure 4 depicts my conceptualization of how the health district and the PDC are integrated for economic development projects.

Figure 4. Model of the Interaction of Economic Development and Health



The model of interaction between economic development and public health illustrates how the health district and the PDC in the Mount Rogers district interact to produce jobs and to increase access to health insurance; both tasks relate to the missions of each organization. The blue rectangles reflect the role and resources of the health district, and the yellow boxes denote the activities of the PDC. The health district augments the PDC by providing the technical documentation for water quality and the quantitative measures of health in the community. The green box marks the result of this collaboration: jobs that increase residents' purchasing power and access to medical insurance.

In addition to supporting the need for the water and sewer infrastructure, the health district influences the quality of life of the district's citizens through the implementation of health-improvement programs. While the health district has the capability to provide information on local health status, the Mount Rogers PDC has the skills and resources on hand to research and conduct surveys, provide data, map the jurisdiction using GIS, and to provide funding, particularly for potable water projects.

The PDC and the health district may not commonly share their goals and objectives, but Mr. Taylor views collaboration as the natural course between the health district and the PDC. The PDCs have received a “charge from the state to have some responsibility to encourage the local governments to do these things.” In addition to this upward accountability, PDCs have a downward accountability to the citizens they serve. Another example of the responsiveness of the Mount Rogers PDC was the installation of a health department in Grayson County⁵.

Obstacles, costs, and benefits.

Like many other directors, Mr. Taylor also referenced time for staff to manage joint projects as a primary cost for the PDC. During these “tight budget situations” the cost of collaboration may seem greater than usual, but the mission of the organization outweighs the cost for staff or products.

Our mission is to do something in planning to encourage somebody to make a decision to solve a problem. So, we’ve got to establish a partnership. We’ve got to have somebody, because we don’t have any authority to go out and build a water system on our own. We can’t hire a contractor on our own to build one, we can just do it with our local governments, and the people who have a mission or responsibility to do [similar] things.

For the in-kind services the PDC provides to the health district, Mr. Taylor says his agency has benefited from services from the health district.

[The health district’s] role is to provide services, to enforce regulations, and our role is to do planning. So, uh, how can we work with one another? Let’s find out a way to get it done.

The benefits cited by Mr. Taylor in the Mount Rogers district mirror the comments made by Mr. Flanary in the Lenowisco district, that collaboration gives the PDC the authority to move forward with projects beyond the PDC’s jurisdiction, namely the provision of public water by the public service authority.

Another benefit is the connection between improved quality of life from a public health perspective that the PDC can use to attract investors and their employers. One of the functions of the PDC is economic development and in order to bring in new businesses, the PDC must

⁵ I did not get a chance to follow-up with Dr. Smith to see if the health district collaborated on this project, but I heard no indication that the Mount Rogers Health District worked with the PDC on establishing the Grayson County Health Department.

promote the community. The Mount Rogers PDC has taken the approach that improved quality of life as a function of public health can enhance the economic well-being of the jurisdiction.

New River (Valley)

The counties of Floyd, Giles, Montgomery, and Pulaski, and the town of Radford constitute the New River Health District and the New River Valley Planning District Commission. This district has the highest population density within the southwest Virginia study area. The median household income is the highest with a distribution of jobs in education, manufacturing, and retail. Agriculture employs less than two percent of the citizens in the New River Valley, compared to more than 12 percent in the Cumberland Plateau area. Health outcome data show that this district has the lowest mortality rates in all 12 categories among the districts of southwest Virginia. In comparison to the state rates, the New River area has lower mortality rates in five categories: infant death, malignant neoplasms, suicide, septicemia, and homicide.

Health District

Dr. J. Henry Hershey has served as the director of the New River Health District for eight years. In addition to his medical training, Dr. Hershey has a Master's degree in Public Health and additional training in preventive medicine, leadership, and management.

Current projects & collaborations.

Collaboration between the New River Health District and the New River Valley PDC has extended prior to Dr. Hershey's tenure at the health district, and is still on-going. According to Dr. Hershey, his office regularly communicates with the PDC "probably. . . once a week, at a minimal of three times a month" (personal communication, February 20, 2003). According to Dr. Hershey, the basis of the collaboration

mostly involves environmental health related issues, which are still community health related uses, but around water, waste water, municipal water, and infrastructure extension of public sewer, public water to areas that are in need.

In addition, the New River Health District has formed numerous, extensive collaborative relationships in the district and the region to address the health needs of the residents. Two

projects with a broader scale include Turning Point and Partnership for Access To Healthcare (PATH), while more narrowly focused projects target the availability of ground water, ensure access to public water and sewer, mitigate ground water contamination, and encourage physical activity. In order to accomplish these projects and initiatives, the health district has entered into partnerships with local governments, hospitals, and health and human service agencies, civic groups, local universities, and the planning district commission. The purpose of the PATH initiative is, in part, to create an environment that is conducive to collaborative partnerships between the health district and other potential partner organizations.

One of the ideas of PATH was to create a single entity that would coordinate and help to not only oversee, but serve as a sounding board for people to begin to collaborate more effectively and efficiently and reduce duplication in terms of these kinds of planning efforts that may be disjointedly going on.

The New River Valley PDC has been involved in PATH and the water-related environmental health projects through the health district. Recently, the two organizations collaborated to conduct a groundwater survey of Floyd County, an area of the district with chronic drought concerns.

Another good example is that we just recently are working with the planning district commission on the New River District ground water survey study which started in Floyd county with a rural development block grant. . . . And the whole idea is to extend, and get money to extend, public water and sewer to areas of the county that need it and don't have it. . . . We ended up working with a group of senior citizens, the senior environmental corps. . . We didn't have the capacity to do the kind of back surveying that we needed, in terms of locating all of these wells, replacement wells or failed wells, with GPS coordinates to get them into a map. And so this senior environmental group was really helpful in doing that.

The need for additional human resources led to the inclusion of the PDC and the senior environmental corps in this project to determine the availability of water in Floyd County.

In addition to working on specific projects, the two organizations have worked together to provide technical support to local communities on infrastructure and environmental health issues.

In some of the past partnering efforts we have gone around and worked with the planning district commission in talking to localities and helping them write their local subdivision ordinances and zoning ordinances. This is all sort of long-range planning, in terms of trying to prevent septic systems from failing, but also trying to prevent contamination, ultimately of the groundwater, and so it's that kind of symbiotic relationship that we share.

Dr. Hershey identified the key resource that the health district brings to a collaborative effort as the authority to “substantiate the need [for regional planning projects] as well as the [consequences] of not doing it.” This authority has applied itself to providing sewer access to mobile homes, to providing public utilities to rural communities, and to consulting localities on subdivision ordinances. In exchange for this authority, the health district benefits from collaborating with the PDC because it helps achieve the New River Health District’s mission that the district’s citizens will be the healthiest in the nation. The goal of healthy citizens drives collaborative efforts to “ultimately create a healthy community.”

While the health district and the PDC have had an extensive history of collaboration, current efforts stem from the idea that the two organizations, “have a very common mission in terms of health,” according to the director, Dr. Hershey. The health district

is looking at the community’s health, growth and development, and planning, in terms of the best way to leverage resources to keep the community as healthy as possible, but also looking at the quality of life.

Obstacles, costs and benefits.

Collaboration can benefit both parties and function best when individuals are able to work together. While Dr. Hershey cautioned that some relationships that are built on poor ground rules and lack of communication can lead to “turf issues” as an obstacle to collaboration,

I don’t think we have that kind of problem here. . . . This is a partnership that we work together so closely that it’s a symbiotic relationship. It is almost routine functioning now for us in terms of working with the planning district commission.

The unwillingness to fully participate as a partner compromises the collaborative effort, but it also adds to the psychological costs of participation. Other costs of collaboration, from Dr. Hershey’s perspective, include the financial, human resource, and time constraints “to deal with some of these projects in as quick a time manner or as thorough a time manner as we would have wanted.” Furthermore, collaboration involving a large number of people, either with one other large organization or many smaller groups, are more difficult to manage because of the greater potential for “issues like turf issues, egos, and personality disorders.” This obstacle is not evident in the collaboration between the PDC and the health district because both organizations are relatively small. Also in larger collaborative efforts, Dr. Hershey points out that it may be difficult to maintain a common vision and to maintain constructive governance guidelines.

However, the relationship between the health district and the PDC, according to Dr. Hershey, is a “symbiotic relationship” based on projects related to the mission of both organizations, grounded by a history of working together, and maintained by small, manageable working groups. When asked about the benefits of collaborating with the PDC, Dr. Hershey gave two answers:

(1) They are helping us to get to our mission, and our mission is that the people in the New River Valley are going to be the healthiest people in the U.S., really in the world. For example, we have malfunctioning sewage disposal systems in subdivisions and mobile home parks, and with their help, with us helping them, and them helping us, we are able to replace them with centralized public sewer. That’s part of my mission, it’s part of my goal. In improving community infrastructure, they have forwarded my mission.

(2) The PDC has also historically acted as a liaison between local governments and the New River Health District. And I think that’s a really important point for them as well. They have acted as the liaison between local government and the New River Health District, and [as the liaison for] the sources of funding that brings all parties together in a real collaborative effort toward a common goal for the good of the community. And I think that’s where we’re all functioning from.

So, it is direct or indirect, however you want to look at it, but it is ultimately going where I want to see it go. It is ultimately creating a healthy community.

Planning District Commission

Mr. Dave Rundgren, Director of the New River Valley PDC, has over thirty years of experience working in the PDC system. Prior to moving to the New River Valley in 1984, Mr. Rundgren worked for the Central Shenandoah PDC. His Bachelor’s degree in forestry has two concentrations: one in forest management and the other in recreation management and park development. Mr. Rundgren also has a Master’s degree in urban and regional planning.

Current projects and collaborations.

In this rural district, one of the roles of the PDC is to provide technical planning services to the local jurisdictions that do not have their own planning authority. Awareness of the health outcomes of groundwater contamination as a result of development on porous terrain guides the collaboration between the New River Health District and the New River Valley PDC.

According to Mr. Rundgren, the health district has worked with the PDC to identify failed septic tanks, to provide public water and waste water infrastructure, and to consult on zoning regulations.

The project area directly related to health is in water supply and the evaluation of failing wells, particularly in Floyd county. We've worked with the health department in the development of zoning regulations to assure proper locations of septic tanks, wells, and termite-treated buildings. Other projects that related to health include water, public water supply, public sewage disposal, and we have a relationship in terms of information back and forth when health-related issues are identified (personal communication, March 6, 2003).

Like the Lenowisco PDC, the New River Valley PDC has more often worked with sanitarians and county health departments on specialized projects rather than with the health district director on strategic projects. However, unlike some of the other districts, both directors mention information sharing as an on-going component of their collaborative relationship.

When the New River Valley PDC comes to the collaboration table, they bring planning skills, facilitation skills, and the financial resources of grants and loans. Offering grants and loans ties directly into the resource dependency theory discussed in the chapter on the framework for collaboration. The need for money motivates many organizations to enter into collaborative relationships because they are dependent on financial resources.

If the New River Valley PDC has this extensive financial resource, then one might ask why do they need to collaborate? The PDC collaborates with the health district specifically because they need data and resources maintained by the health district. In one the mapping of ground water in Floyd county, the PDC required the data that the health district maintains on new well applications and reports on failed wells. Therefore, when the PDC wants to map residential wells in a county, the primary data source is the local health department.

Obstacles, costs, and benefits.

In response to my question about obstacles and costs, Mr. Rundgren stated that time and money are two chief concerns. However, while other directors referred to the time needed to manage a joint project, when Mr. Rundgren said that time is an obstacle, he also said that "we don't have or take time to follow the work we're each dealing with." Time, in this sense, does not apply to the hours necessary for two organizations to complete an identified project, but the resources needed to communicate PDC projects and to learn about health district projects. In this case, there are two perceptions of time, proactive and reactive.

In terms of benefits, Mr. Rundgren believed that

adding the expertise that the health district has to our projects and adding our expertise to the ones they're doing, you've got the word *organization benefit*, and the organization benefits from being able to better service our clients who are our localities and people within the region. So the benefit really flows not so much from organization to organization as it does from organization to the people of the region, from my perspective. The organizational benefit, per se, I guess we could benefit from working the health district if they have some money that they want to invest with us to get a share of our expertise mixed to their projects, and likewise when they're willing to commit their resources to work with us. But the real endpoint is not the organizations and the benefits to the organizations, so much, as it is the benefits to the larger community.

This chapter reviewed the data collected through the semi-structured interviews with the directors of the health districts and the PDCs in southwest Virginia. The findings show that health districts and PDCs work together in varying degrees. I expected to see most of the joint project areas to be environmental health, but was surprised to learn that two organizations have collaborated in the name of economic development and quality of life. The next chapter connects the findings to the theoretical framework and presents the final conclusions.

Chapter 7

Conclusion

I set out on this research project to learn how health districts and PDCs work together on projects covered by both organizations. I expected to learn that common project areas included environmental health, water and waste water issues, emergency preparedness, housing, and the built environment to promote physical activity. I learned that in southwest Virginia health districts and PDCs do work on environmental health, water, and emergency preparedness but not on housing or the built environment. I also learned that other areas of collaboration include economic development and access to health care. Identifying the areas of collaboration constitute only the first level of understanding the nature of interorganizational relationships within the public health and regional planning framework.

The objectives of this research were to document joint programs between PDCs and health districts, to gauge the level of interorganizational relationships, and to reconcile the reasons for collaboration against Oliver's contingencies for collaboration. The examination of the projects and partnerships among the Lenowisco, Cumberland Plateau, Mount Rogers, and New River (Valley) districts of southwest Virginia reveal that there is a range of collaborative efforts between the health districts and planning district commissions. In the two districts with minimal collaboration, the common program area was emergency preparedness or water-related environmental projects. In districts with higher levels of collaboration, the program areas included water-related environmental projects, emergency preparedness, economic development, and access to health care. Table 8 below provides a summary of the program areas in which PDCs and health districts collaborate in the research area.

Table 8. Summary of Areas of Collaboration between Planning and Public Health in Southwest Virginia

PLANNING DOMAIN	PUBLIC HEALTH DOMAIN
Current Areas of Collaboration found in southwest Virginia	
Environmental Planning Waste Management/Landfill Planning	Environmental Health Services Communicable Disease Control
Emergency Preparedness Planning Information and Data Dissemination	Emergency Preparedness
Economic Development (Quality of Life)	Access to Health Care (Quality of Life)
Potential Areas of Collaboration	
Recreation Planning	Chronic Disease Prevention
Housing	Indoor Lead
State and Federal Grant Application Assistance Grants Management	Supplement to areas common to planning and public health
Areas without Interorganizational Collaboration	
Public Works Program Intergovernmental Review Process Legislative Liaison Activities	Child Health Services Maternal Health Services Family Planning Services Quality Health Care

The data derived from the semi-structured interviews show that the mission of an organization, or more importantly, the perception of the mission of an organization, was a significant contributing factor for collaboration. In organizations where the director interpreted the mission of the complementary group as being dissimilar, the director pursued few or no collaborative opportunities. Also in the districts with the lower levels of collaboration, directors cited the need to provide basic services, specifically prescription drugs and jobs. The directors in these districts implied that when these basic programs achieved their purpose and elevated the ability of the citizens then more complex projects would follow. In the case of the prescription drug access project in Lenowisco, I predict that a potential next level of service delivery that the health district might provide is a case management project to ensure that patients follow their treatment regimen. This might then be followed by a preventive services campaign, but not before the rates of chronic diseases like diabetes and heart disease were reduced.

Contingencies for Collaboration

Oliver (1990) acknowledges five external contingencies for collaboration: asymmetry, reciprocity, efficiency, stability, and legitimacy. The data derived from interviews with the directors of the public health and planning organizations in the study area identify all contingencies except asymmetry. I found no evidence of an organization with the intent “to exercise power or control over another organization or its resources” (Oliver, 1990, p. 243). However, I did find examples of legitimacy, stability, reciprocity, and efficiency (Table 9). In the following section, I will explain connections between the interview data and each of these contingencies.

Table 9. Contingencies for Collaboration for Southwest Virginia Districts

LEVEL OF COLLABORATION	DISTRICT	RELATED CONTINGENCIES FOR COLLABORATION	EXAMPLES OF CURRENT JOINT PROJECTS
Low	Lenowisco	Legitimacy	Public Water Supply
Low	Cumberland Plateau	Stability	Emergency Preparedness
High	Mount Rogers	Reciprocity Legitimacy (Stability) ⁶	Public Water Supply Economic Development/Access to Health Care
High	New River (Valley)	Reciprocity Efficiency Legitimacy	PATH (Partnership for Access to Health Care) Public Water Supply Drought monitoring

Reciprocity

Reciprocity means that collaboration directly relates to the perceived ability for partnerships to improve the internal mission of an organization. According to Oliver (1990), “motives of reciprocity emphasize cooperation, collaboration, and coordination among organizations” (p. 244). I found strong examples of reciprocity in the Mount Rogers and New River (Valley) districts.

⁶ The parenthesis denote a contingency for future collaboration as explained in the section on Stability below.

Directors in these districts explicitly stated that collaboration allowed them to meet the objectives of their respective missions. Dr. Hershey of the New River Health District wants the residents of the New River Valley to be the healthiest people in the nation and views working with Mr. Rundgren at the PDC to improve accessibility of treated, public water as meeting his goal.

Another example exists in the Mount Rogers district. Mr. Taylor, the director of the PDC, repeatedly stated that his organization has “an interest in economic development” and consequently has “a vested interest in the quality of life being good” to attract investors and new industries to the area. Dr. Smith, his counterpart in the health district, has a vested interest in maintaining, if not improving, the health of the district’s residents. While the public health department provides some health services, it does not provide all services. Health insurance is a key requirement for appropriate medical care, and employers pay a significant portion of their employees’ health insurance. Dr. Smith is concerned that the rising unemployment rate will mean a loss of insurance benefits and consequently a loss in medical care. Therefore, this illustrates the health district’s interest in the economic development of the district. The PDC wants a healthy community to market to potential employers, and the health district wants more employers to maintain health insurance coverage and the accessibility of health care within the district.

As these two districts illustrate, incentives to collaborate include the potential to help the partner organization as well as to help your own organization. This action defines reciprocity that I found in the Mount Rogers and New River (Valley) districts. However, I did not find significant levels of reciprocity between PDCs and health districts in the Lenowisco or Cumberland Plateau districts.

Legitimacy

Another contingency for collaboration is legitimacy. Legitimacy refers to receiving technical and professional support from a complementary organization to enhance the authenticity of the target projects. This contingency is important in the collaboration between health districts and PDCs. As I have discussed in Chapters 2 and 4, health and planning may have overlapping objectives, but they have very distinct roles as exhibited within the study area. Both organizations generally have an interest in improving the quality and accessibility of water

for residents. According to the data from my interviews, the PDCs have the responsibility of investigating need and researching infrastructure options to provide water to a community. The health districts' role is to test the existing water supply to confirm that there is a need, but the health districts do not work on technical specifications to the magnitude that the PDCs do. Therefore, in terms of water-supply issues, each organization depends on the other for technical and professional resources to strengthen the legitimacy of their own projects.

Three districts discussed legitimacy as a contingency for collaboration. In Lenowisco, the PDC perceived that working with the sanitarian of the health district improves the reception of the water projects by the target community. However, the director of the health district did not share this concept; he does not view working with the PDC as a means to enhance the standing of the public health projects, but perceives legitimacy in working with hospitals, universities, and other social service organizations in the community. The directors of the PDC and the health district in the New River (Valley) discussed legitimacy in terms of environmental health and water-related projects. In the Mount Rogers district, the organizations seek legitimacy as they work on a project to develop a local community center that offers health education and to develop the local economy. Dr. Smith, the Mount Rogers Health District director, explicitly said that he partners with the PDC because "they have great legitimacy" in the realm of planning. Legitimacy brings partners together because it reflects a need to improve the organization's authority within a community.

Stability

Organizations also enter into collaborations to reduce environmental uncertainty. The environment can encompass a broad range of factors including the national economy, the local political structure, and the internal organizational dynamic. Organizations that participate in collaborative efforts to mitigate unexpected changes in these areas or others seek stability. A new project area which requires organizational stability for both public health and planning is emergency preparedness. Few organizations have developed expertise in this field and the recent mandates to develop such programs do not come with extensive training.

The one joint project of the Cumberland Plateau Health District and PDC is emergency preparedness. The health district relies on the PDC for map data and physical resource information on the district and the PDC relies on the professional knowledge of the health

district on how to develop a contingency plan should a disaster affect the district. Working as partners, each organization gains more ability to predict the nature and degree of an emergency and how to respond to such an emergency.

The example from the Cumberland Plateau district focuses on providing greater knowledge to enhance stability as the organizations respond to emerging biological or man-made threats. The mandate for emergency preparedness planning is relatively new to the current political climate of the country. The expectations and requirements are difficult to gauge, particularly in rural areas. The dependence on knowledge and resources to meet the objectives of emergency planning has brought the health district and the PDC in the Cumberland Plateau district towards a collaborative effort.

In the Mount Rogers district, collaboration, from the health district's perspective, can lead to financial stability. The health district director recognizes the PDC's ability to win and manage grant monies for a variety of projects within the district. In a comment unrelated to the PDC's grant management skills, Dr. Smith revealed the need to have adequate personnel to manage incoming grants in order to have the resources necessary to address the health needs of the district. In terms of public health delivery modes, Dr. Smith identified several models of successful health education campaigns in neighboring states. Unfortunately, the resources do not exist to pursue all of these projects. Collaborating with an organization that can manage project funds would provide the health district a measure of stability to pursue these needed projects.

Efficiency

The last evident contingency for collaboration is efficiency. Efficiency measures the ability of an organization to function well internally. Pfeffer and Salancik (1978) claim, "efficiency involves doing better what the organization is currently doing" (p. 11). The Floyd well-mapping project in the New River (Valley) demonstrates how efficiency brings two organizations to collaborate. The local health district keeps records on well permits and failed-well notices, and the PDC conducts needs assessment of available water within the district. Neither the health district nor the PDC working alone could produce a reliable, comprehensive map of the failing wells in Floyd County. However, working together, the PDC provided base maps, the health district provided well-permit data, and a third organization, the Senior Citizen Environmental Corps conducted the actual fieldwork. This collaboration demonstrated how each

organization contributes the necessary resources to allow for the completion of the project or how the collaboration allowed each group to better complete their own tasks.

Limitations

This case study included four districts in southwest Virginia that have common political, social, and geographical characteristics, in addition to relatively similar health outcomes, that may not be applicable to another group of districts elsewhere in Virginia or in the country. As this study did not examine the correlation between these characteristics and collaboration, the reader should not draw broad conclusions beyond the scope of the study area.

While this research made significant progress towards understanding collaboration between regional planning and public health in southwest Virginia, issues with the research methodology prevented me from obtaining the most comprehensive data possible. The review of public archives was meant to establish a benchmark for the projects and programs of each organization, but the variations of the publications proved to be a rather inconsistent source of data. To provide a more reliable survey of the projects, programs, and levels of collaboration, I suggest more in-depth interviews and a second round of interviews for follow-up questions derived from the interview with the organizational counterpart. Using external sources to triangulate the data did not prove to be effective in this case study. I consulted media sources, namely the Roanoke Times, for additional information on the activities of the public health districts, but many of the articles reported sensational hearings rather than substantive information on projects and collaborations.

Recommendations

Through the process of conducting this research I have learned many lessons. In this section I divide the recommendations into portions appropriate for the intended area: planning professions, applied research, and theoretical research.

Planning Professions

A recurring theme in each district I interviewed was that directors perceived a lack of information about the mission, projects, and capabilities of the complementary organization. The passive solution to this lack of knowledge is to expect interested groups to research

appropriate organizations. Conducting this research reveals formal and informal barriers. Formally, each organization I studied has some informational material including a website and published information. However, the guidelines for all publications are not standardized across the disciplines. While one website may have detailed information about the mission, staff, and current projects of an organization, another website may only have a brief outline of the organization.

In addition to the discrepancy of available information, political and social structures at the local level create an informal barrier for open information exchange. Directors may not be familiar with community issues, know key leaders, or understand appropriate channels of conduct specific to a community. Dr. Dreyzehner mentioned this as a specific problem that he confronted as a director with a short professional history in his district. Dr. Hershey also met with this problem when he started with the New River Health District seven years ago. Both directors were able to overcome some of these barriers by working through the veteran staff members to identify project stakeholders and to undergo a process of community initiation.

A proactive approach to combat the confusion and lack of information about the roles and responsibilities of health districts and PDCs is for each organization to prepare a comprehensive, but brief, presentation to complementary organizations about the respective organization's mission, resources, current projects, and future direction. Equipped with this presentation, each organization could introduce, or reintroduce, itself to the complementary organization in the district. This process would increase awareness and potentially improve collaboration between health districts and PDCs.

Another recurring cost to collaboration is the fact that collaboration time is generally not reconciled with project budgets. While most directors are willing to participate in in-kind collaborative efforts and not worry about accounting for each hour of partnering staff time there is still a need to be financially accountable to specific projects and/or funding sources. One solution to this issue is to write collaboration into the funding grant or work plan that an organization presents to the funding agency. Conversely, funding agencies can require a degree of collaboration with external organizations and award funds specifically for that purpose. This incentive is particularly important during an economic recession. During economic downturns, stakeholders are more sensitive to financial accountability, as supported by the data from the study area which identified limited budgets as a constraint to collaboration. However,

collaboration can increase access to grants and other project money, as noted by the grants management program area of PDCs. While collaboration can bring an increase in the financial resources available for a project, maintaining an appropriate division of labor in relation to resources insures that one organization does not bear all of the costs of collaboration. Collaborative efforts should to be structured so that PDC efforts go to planning, and paid for by planning funds; health district efforts go to health and paid for by health funds

Applied Research

The methodology for this project called for me to interview each director of the four health districts and four PDCs one time. I would suggest that future studies of health districts and PDCs allow for at least two interviews with each director. Berg (2001) emphasizes the need to appropriately structure the interview to obtain the highest level of instrumental validity, including the types of questions and the length of the interview. Semi-structured, open-ended questions posed at intervals would collect more in-depth data. After the first round of interviews, the researcher should transcribe and conduct a preliminary analysis of the interviews. The researcher should then use this data to formulate questions for the second round of interviews. The subsequent interviews would be valuable to discern the nature of the relationships on specific projects.

I would also suggest using qualitative software to organize and analyze the interview data. Numerous software packages are currently available on the market to manage qualitative data, and each offers a distinct set of analysis tools. While it may be a little time consuming initially to identify and learn the software, it provides for a more objective and structured review of the data.

Theoretical Research

Much of my inspiration for pursuing this research came from a conference session on the connections between public health and planning. Researchers are interested in collaboration, but little research has been done to understand this connection. Through my research I was able to identify some contingencies for collaboration between health district and PDC directors as outlined by Oliver (1990). The structure of the research allowed me to make some connections to specific environmental and individual attributes, as discussed by Pfeffer and Salancik (1978),

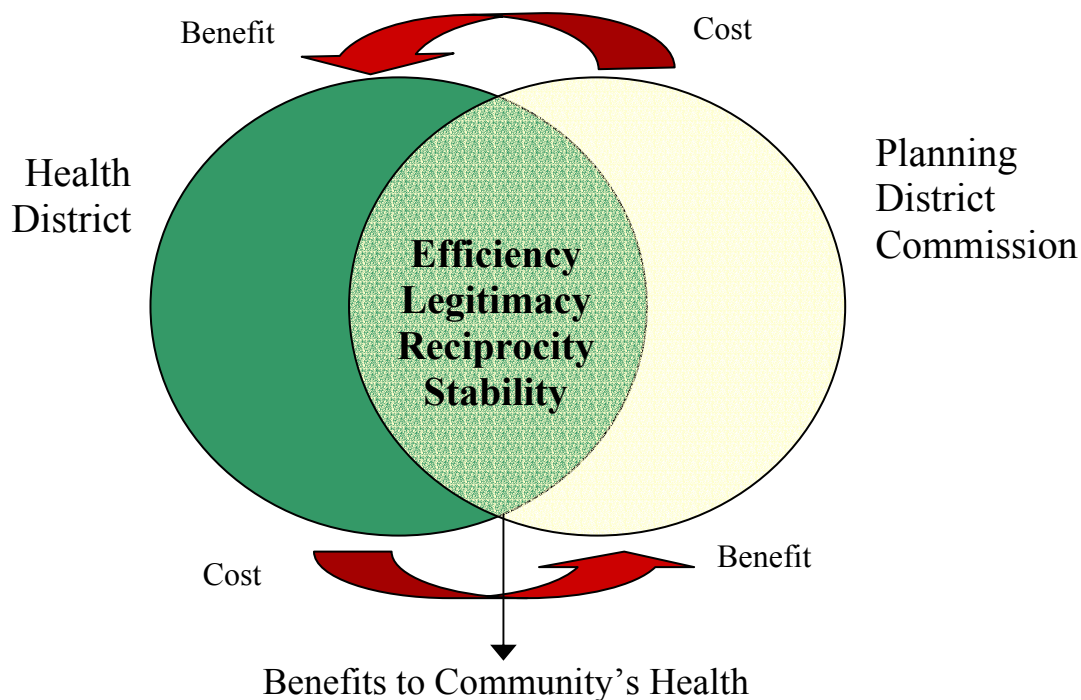
which provide an understanding of the types of connections between planning and health in the study area.

Future research could take these results into two distinct directions: a broader focus to document contingencies for collaboration in other regions of Virginia or other states, or a more narrowed, in-depth approach to determine the connections between factors within a district and the nature of the cooperative relationship. In this research, I discussed factors for legitimacy, stability, reciprocity, and efficiency, but did not explore asymmetry because I found no examples of that contingency in the study area. One way to manage the narrowed approach would be following the two rounds of interviews as described above for applied research. In the second round, the researcher should focus on one contingency, i.e. legitimacy, and ask follow-up questions directed at understanding only that one component. Through this process, one might be able to identify common factors that relate specifically to legitimacy and provide a deeper understanding of the nature of interorganizational relationships. Furthermore, if this process were continued over a significant period of time, future researchers could analyze the data as a time-series and draw correlations between types of collaboration and changes in the economic and political environment. One specific question that relates to a time-series analysis of collaboration is to understand how collaboration between regional planning and health compares during times of recession, inflation, and deflation.

Another research direction is to examine the correlation between collaboration and the benefit to a community's health. While my research showed that various levels of collaboration based on Oliver's contingencies existed in each case study area, it did not show a connection between the level of correlation and the health outcomes of a district. Coincidentally, the districts that have the highest level of collaboration also have the best health indicators. At this stage, it is premature to conclude that high levels of collaboration correspond to healthier communities, but additional research can test this concept. A preliminary model of this hypothesis is shown in Figure 5. The Venn diagram represents the level of collaboration, with the contingencies identified in the intersection. The contingencies listed were noted in the research area, but this group of contingencies may vary according to the nature of collaboration between targeted organizations. The arrows at the top and bottom of the model refer to the reciprocal costs and benefits of participating in collaboration; while each organization faces

some cost, it also receives a benefit. The arrow leading away from the area of intersection leads to the research question, How does collaboration benefit the community's health?

Figure 5. Model of the Effect of Collaboration on Community Health



This research project has tried to understand how planning and public health collaborate. To my knowledge, no one has examined how regional planning organizations and public health districts function together, but there is a growing awareness that the two groups share common objectives such as improved environmental health. My research identified another common objective: a healthy economy that provides jobs and medical insurance.

This final chapter reviewed my findings of the collaboration between health districts and PDCs among the four district jurisdictions in southwest Virginia. Through interviews with the directors of each organization, I learned that the organizations work together, but at varying levels and for different reasons. The most common determinant of collaboration was legitimacy, followed by stability and reciprocity. I believe collaboration to be a beneficial solution for improving the health of communities, and that relationships can continue to develop between the health districts and the PDCs. Future research should examine what factors in the environment

influence these contingencies which, in turn, would refine the nexus between planning and health. Knowing how to specifically improve collaboration can reduce service redundancy and benefit communities.

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APPENDIX A.**Questions to Answer through Review of Public Archives**

1. Identify projects grounded in both planning and public health and/or related to the physical/built environment.
2. What are the funding sources?
 - a. How much do they contribute?
3. Who are the current partners, if any?

APPENDIX B.**Semi-Structured Interview with PDC/Health District Directors**

I'm interested in what projects/programs planning district commissions and health districts have in common and how they work together, possibly by combining financial, technical, and human resources. I'd like to ask you some questions about what your organization is doing and how you are working with your PDC/HD on projects/programs.

1. What current projects in your district relate to health/planning?
2. Do you currently have community partners in these project areas? Who?
3. What skills/resources can you contribute to health/planning?
4. Is your organization currently working with the local HD/PDC?
 - a. If yes,
 - i. What led you to partner with them?
 - ii. In what ways do you currently collaborate?
 - iii. Are there specific projects?
 - b. If no,
 - i. Why don't you work with them?
 - ii. Do you know about their projects and programs?
5. What do you see are obstacles to conducting projects with the HD/PDC?
 - a. What has limited collaboration in the past?
6. Now, I'd like to ask you about the costs of collaboration. What are following specific the costs for collaboration?
 - a. Financial
 - b. Time
 - c. Psychological
7. How can your organization benefit from working with planning/health?

APPENDIX C.**Letter of Support and Introduction**

February 3, 2003

VIA FACSIMILE
276-431-2208

, Director
Planning District Commission
Address
City, Virginia 24244

Dear :

We write on behalf of Theresa Kanter, a graduate student in the department of Urban Affairs and Planning at Virginia Tech. Ms. Kanter is conducting research on a fairly neglected but important topic: the collaboration between regional planning and public health in southwest Virginia. To collect data for this project, we were hoping that she might contact you within the next few days. She will most likely request documents and data that are considered part of the public archives. However, what would be most helpful would be an interview with you about key aspects of your organization. We realize that you are very busy and we have honed down her research instrument to a 'bare minimum' of questions. Her questions are based on existing literature about collaboration, planning, and public health. We expect that the interview will take about 30-45 minutes. Because the research encompasses only the four districts in southwest Virginia, your cooperation will be invaluable to ensure a 100 percent participation rate.

In exchange for your very valuable time, the results of this research will be shared with you and your agency. We trust it will provide insight not only for Theresa's research, but afford an understanding of how planning and health work together in our region.

If we can provide you with further information about this research project, please do not hesitate to contact Joe Scarpaci.

Sincerely,

Joseph L. Scarpaci, Jr.
Professor of Urban Affairs & Planning
(540-231-7504; scarp@vt.edu)

James R. Bohland
Senior Fellow for Biomedical, Bioengineering and Health Projects

APPENDIX D.**Initial Letter to Directors**

January 27, 2003

VIA FACSIMILE

, Director
Address
City, Virginia ZIP

Dear :

I am a student in the department of Urban Affairs and Planning at Virginia Tech conducting research on the collaboration between planning district commissions and local health districts in southwest Virginia. In order to learn about your organization's role in this partnership, I would like to request some public documents from your agency. Through the internet, I have found information about projects and program areas, but I would appreciate it if you could supplement this with annual reports, annual budget statements, and/or newsletters, as you have them. I have enclosed a self addressed stamped envelope for your convenience in sending those documents to me.

In addition to these public documents, I would like to conduct an interview with you to learn first hand about the nature of the relationship between your organization and the local health district. I have enclosed the questions that I would like to ask, and I anticipate that the conversation will take 45 minutes to an hour. I will be calling this week to set a time to interview and answer any questions you may have about my research.

Thank you for your time and consideration to my request.

Sincerely,

Theresa Kanter

APPENDIX E.

Methodology Matrix

Research Objectives	Methods ⁷	
	Public Archives	Open-Ended Interview with Directors
1. To document projects and programs of Planning District Commissions and local Health Districts that relate both to physical/environmental planning and health.	1	1, 4ai,
2. To understand the level of interorganizational collaboration between PDCs and health districts as shown in physical/environmental health programs.	3	2, 4, 4ai, 8
Consider “environmental pressures”/financial resource dependency as a contributing factor	2, 2a	
3. To determine to what extent joint physical/environmental health planning programs by the PDCs and health districts reflect Oliver’s contingencies for collaboration. <i>necessity, asymmetry, reciprocity, efficiency, stability, and legitimacy</i>		3, 4ai, 4bi, 4bii, 5, 5a, 6a, 6b, 6c, 7

⁷ Numbers in this table refer to the question number as listed in Appendix A Questions to Answer through Review of Public Archives and Appendix B Semi-structured Interview with PDC/health district Directors.

APPENDIX F.

Informed Consent for Participants in Research Projects Involving Human Subjects

Title of Project Exploring Collaboration between Regional Planning and Public Health in Southwest Virginia

Investigator(s) Theresa Kanter

I. Purpose of this Research/Project

The purpose of this research is to conduct a case study of planners in southwest Virginia. These planning district commissions (PDCs) and local health districts include Lenowisco, Cumberland, Mt. Rogers, and New River. The aim of this case study is to assess the normative kinds of planning collaboration one might expect based on the planning literature, with the actual workings of the southwest Virginia study site.

II. Procedures

The method for collecting data that involves human subjects is a semi-structured interview with the directors of the planning district commissions and local health districts within southwest Virginia. The interview instrument was created using existing literature on planning, health, and collaboration. The interview is expected to take less than an hour and will be conducted in the subject's place of business.

III. Risks

There are no anticipated risks or discomforts.

IV. Benefits

The benefit of participating in this study will be a contribution to the understanding of regional and health planning. No promise or guarantee of benefits have been made to encourage the subject to participate. The research results will be made available to the participant.

V. Extent of Anonymity and Confidentiality

While the participant is a public official and the topic under consideration is public information, the researcher will grant anonymity if requested. If anonymity is requested, the researcher will refer to the participant in the third person in the final report.

The interview will be audio recorded, and the tapes will be under the researcher's direct supervision. The researcher will transcribe these tapes.

VI. Compensation

There will be no compensation for participating in this research project.

VII. Freedom to Withdraw

The participant is free to withdraw from a study at any time without penalty. The participant is free not to answer any questions or respond to experimental situations that they choose without penalty.

VIII. Approval of Research

This research project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University, by the Department of Urban Affairs and Planning.

February 11, 2003
IRB Approval Date

February 11, 2004
Approval Expiration Date

IX. Subject's Responsibilities

I voluntarily agree to participate in this study. I have the following responsibilities:

X. Subject's Permission

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

_____ Date _____
Subject signature

Should I have any pertinent questions about this research or its conduct, and research subjects' rights, and whom to contact in the event of a research-related injury to the subject, I may contact:

Theresa Kanter
Investigator(s) 540-552-6418/tkanter@vt.edu
Telephone/e-mail

Joseph L. Scarpaci
Faculty Advisor 540-231-7504/scarp@vt.edu
Telephone/e-mail

John Randolph
Departmental Reviewer/Department Head 540/231-6971/energy@vt.edu
Telephone/e-mail

David M. Moore
Chair, IRB 540-231-4991/moored@vt.edu
Office of Research Compliance Telephone/e-mail
Research & Graduate Studies

APPENDIX G.

Table of Planning District Commissions and Local Health Districts

	Director, First	Director, Last	Address	City	ZIP	Phone	Fax
Planning District Commissions							
Lenowisco	Ronald C.	Flanary	P. O. Box 366	Duffield	24244	276-431-2206	276-431-2208
Cumberland	Andrew	Chafin	P. O. Box 548	Lebanon	24266	276-889-1778	276-889-5732
Mount Rogers	Thomas G.	Taylor	1021 Terrace Drive	Marion	24354	276-783-5103	276-783-6949
New River Valley	David	Rundgren	6580 Valley Center Drive, Box 21	Radford	24141	540-639-9313	540-831-6093
Local Health Districts							
Lenowisco	E. Sue	Cantrell	134 Roberts Street, S.W.	Wise	24293	276-328-8000	276-376-1020
Cumberland	John J.	Dreyzehner	P.O. Box 2347	Lebanon	24266	276-889-7621	276-889-7625
Mount Rogers	D. Craig	Smith	201 Francis Marion Lane	Marion	24354-4227	276-781-7450	276-781-7455
New River Valley	Jody H.	Hershey	210 South Pepper Street, Suite A	Christiansburg	24073	540-381-7100	540-381-7108

APPENDIX H.
Responses to Open-Ended Interview

Lenowisco

	Current Projects related to Planning	Community Partners	Skills/Resources	Current Partnership with PDC/health district, Specific projects	Yes/No Explanation	Obstacles	Costs	Benefits
Lenowisco HD Sue Cantrell	<ol style="list-style-type: none"> 1. Emergency Preparedness & Response 2. Alternative sewage disposal 3. Arboviral illness/mosquito surveillance 4. Cardiovascular disease 5. Cancer (for women; disparities) 6. Diabetes 7. Unintentional injury 8. Immunization 	<ol style="list-style-type: none"> 1. VDEM, public schools, local governments, social services, first responders, hospitals, private providers 2. TVA, local governments, PDC (?), contractors, engineering firms 3. local governments, forest service, DCR, JMU, public schools 4. VA Lung Assoc., hospitals, VA extension 5. ECU, ETSU, UK, health district 6. CDC, hospitals, Mountain Empire Older Citizens 7. sheriff's department, public schools, lead poisoning control ctr., local state parks 8. public schools, private providers, hospitals 	<ul style="list-style-type: none"> • Knowledge base of health issues in community • Some expertise in planning, particularly evaluation and outcome measuring 	No	<ul style="list-style-type: none"> • Conflict of objectives and goals • Difference of interest? • "it just hadn't dawned on me that that [telemedicine project] was a project that would be of interest to the planning district." • Not really familiar with PDC projects; newspaper is primary source of information <p>Collaboration with other Organizations</p> <ul style="list-style-type: none"> • Maximize resources • Reduce duplication of services • Broad under-standing of project goals/ missions 	<ul style="list-style-type: none"> • Lack of knowledge about PDC <ul style="list-style-type: none"> ○ Priorities ○ Goals and objectives ○ Mission 	<ul style="list-style-type: none"> • Time "to sit down and figure out what everybody is doing and where a missing piece may come from and where your agency might be or fulfill that role of the missing piece" 	<ul style="list-style-type: none"> • Resources for data: demographics, subdivision statistics
Lenowisco PDC Ronald Flanery	Water, waste water, public water, waste water planning , project development, project administration, economic development work	Water and sewer: local governments, PSA's, financing agencies at state and federal level	<ul style="list-style-type: none"> • Staff expertise <ul style="list-style-type: none"> ○ Technical ○ Planning 	Yes, lower than director-level; with district sanitarian <ul style="list-style-type: none"> • Water • Waste water 	<ul style="list-style-type: none"> • Same service area • Mutual interest • PDC builds technical case, health district builds health related case, PSA provides public water and sewer • Expertise <p>Partner only with water "given the mission of our agency and the brick & mortar, nuts & bolts, community development issues we deal with"</p>	No known obstacles	<ul style="list-style-type: none"> • Time Staff time, billable hours • "it's not a financial issue" 	<ul style="list-style-type: none"> • health district "brings credibility to the issue of why do you need public sewer in this area or why is a public water source preferable to this series of springs and wells."

Cumberland Plateau

	Current Projects related to Planning	Community Partners	Skills/Resources	Current Partnership with PDC/health district, Specific projects	Yes/No Explanation	Obstacles	Costs	Benefits
Cumberland Plateau HD John Dreyzehner	<ol style="list-style-type: none"> 1. Cumberland Access Project (health care for uninsured) 2. Water projects 3. Subdivision & individual lot sewage 4. All hazards plan 	<ul style="list-style-type: none"> • Local governments • Public service authorities • Interagency partners • Public school districts • EMS • Law enforcement • Hospitals 	<ul style="list-style-type: none"> • “professional, technical knowledge with respect to medical and public health issues. . . certain environmental health issues” • Subject matter experts • Experience of regional issues • Philosophical perspective 	Yes, All hazards plan	<p>Yes</p> <p>No</p> <ul style="list-style-type: none"> • Lack of information about PDC organization, programs, mission • Top down non-collaboration set by federal government, HRSA and FEMA 	<ul style="list-style-type: none"> • Time “it’s a real effort to carve out time to do strategic planning” • Human resources “understaffed” • Finances “under funded” • Legal barriers (HIPAA) • Political barriers • Fear-based psychological barriers 	<ul style="list-style-type: none"> • Time • Money • Psychological, “the various players not being required to collaborate” 	GIS & mapping Philosophical perspective
Cumberland Plateau PDC Andrew Chafin	<p>Water resources Bioterrorism</p> <p>Also economic development and industrial development, although “I don’t know if that directly relates to the health district”</p> <p>Waste management authority, brings landfill waste from 3 counties to Tennessee; no HD</p> <p>Past projects: regional housing authority, regional mental health authority</p>	<ol style="list-style-type: none"> 1. Grantor agencies <ol style="list-style-type: none"> a. Appalachian Regional Commission b. Economic Development Administration c. Dept. of Housing and Community Development d. HUD e. Dept. of Health 2. Local governments 3. Planning agencies 4. Economic devel’t Groups 5. health district (Bioterrorism) 	<ul style="list-style-type: none"> • GIS/mapping • Professional planning process 	No, only bioterrorism	<ul style="list-style-type: none"> • No history • Conflicting missions <p>PDC: diversity coal economy, create jobs, improve quality of life</p> <p>Health District: Health</p> <ul style="list-style-type: none"> • Not aware of health district projects/programs <p>Bioterrorism creating common ground for PDC and health district</p>	<ul style="list-style-type: none"> • Difference in missions with health district i.e. Recreational park 	<ul style="list-style-type: none"> • “I don’t think the cost of collaboration would be significant in as far as we’re concerned” • Staff time/human resources • Time, <p>Collaboration and partnering not seen as income producing activities; hard to justify for soft money</p>	Bioterrorism preparedness

Mount Rogers

	Current Projects related to Planning	Community Partners	Skills/Resources	Current Partnership with PDC/health district, Specific projects	Yes/No Explanation	Obstacles	Costs	Benefits
Mount Rogers HD	<ol style="list-style-type: none"> 1. Community center, Whitetop 2. WIC 3. Family planning 4. Economic development 5. Land Use planning, subdivision ordinance consulting 6. Water and sewer 7. Mount Rogers Medication Assistance Program 8. Smallpox vaccination 	Local governments PDC (Whitetop) Community health centers Local hospitals Community Action Program	General familiarity with health issues of the area <ul style="list-style-type: none"> • Health needs • Health care resources • Environmental health Ability to reprogram	Yes Whitetop Community Center Land-use Planning Subdivision consulting <ul style="list-style-type: none"> • Wythe County • Washington County Water and Sewer Smallpox vaccination plan	<ul style="list-style-type: none"> • Gain legitimacy, offer legitimacy • Relationship to other partners, local governments • Connect to local issues 	<ul style="list-style-type: none"> • PDC doesn't see role as "being involved in health planning" • Conflict with mission, shifts in mission 	<ul style="list-style-type: none"> • Time (staff allocation) • Human resources 	<ul style="list-style-type: none"> • Maps • Psychological benefits • Planning process • Connections to resources • Grant-writing skills, management • Financial resources
Mount Rogers PDC	<ul style="list-style-type: none"> • Provision of jobs • Water systems, sewer systems for industrial parks • Housing and rehab • Installation of water and sewer systems to neighborhoods • Indoor plumbing program 	health district Local governments Social services Community Action agencies Churches Civic groups	<ul style="list-style-type: none"> • Research/conduct studies • Data provision • Mapping • Funding for potable water projects 	Yes. Indoor plumbing project Clean Water Act funding	<ul style="list-style-type: none"> • natural; "charge from the state to have some responsibility to encourage the local governments to do these things" • Personal/academic interest in environmental health • Response to need within community, i.e. for medical facilities 	"I don't know of any" Personality issues? Difficult personalities Turf issues? See JHH, NRHD	<ul style="list-style-type: none"> • Time, • Human resources "Their role is to provide to provide services, to enforce regulations, and, our role is to do planning. So, how can we work with one another? Let's find out a way to get it done."	<ul style="list-style-type: none"> • Authority to move forward with projects beyond the PDC's jurisdiction, i.e. provision of public water with PSA • Improved quality of life from a medical perspective to present to business investors

New River (Valley)

	Current Projects related to Planning	Community Partners	Skills/Resources	Current Partnership with PDC/health district, Specific projects	Yes/No Explanation	Obstacles	Costs	Benefits
New River HD J. Henry Hershey	<ol style="list-style-type: none"> 1. Mosquito surveillance/control 2. Emergency preparedness 3. Clean water 4. Dental care 5. Partnership for Access to Health Care (PATH) 6. Turning Point 7. Floyd well water supply 8. Livable communities grant 9. Rural development grant project; water for Prices Fork 	<ul style="list-style-type: none"> • Local governments • Health and human service agencies • Hospitals • Agency on Aging • Radford University • Civic groups • Pharmaceutical companies • PDC 	<ul style="list-style-type: none"> • authority to “substantiate the need [for regional planning projects] as well as the need problems of not doing it” 	<p>Yes</p> <p>Floyd Well Water Survey</p> <p>PATH</p> <p>Turning Point Assessment</p>	<p>* “We have a very common mission in terms of health. . . . We are looking at the community’s health and we are looking at growth and development, and planning, in terms of the best way, leveraging resources to keep the community as healthy as possible, but also quality of life.”</p>	<ul style="list-style-type: none"> • Inability for people to work together; poor relationships • Poor ground rules for functioning • Lack of communication • Turf issues • Capacity 	<p>Financial</p> <ul style="list-style-type: none"> • To support capacity <p>Man power/human resources</p> <p>Time</p> <p>Psychological</p> <ul style="list-style-type: none"> • Turf issues • Ego 	<ul style="list-style-type: none"> • Assistance to reach health district’s mission <ul style="list-style-type: none"> ○ Replacing failing wells ○ Replacing malfunctioning sewage systems <p>“it is ultimately creating a healthy community”</p>
New River Valley PDC Dave Rundgren	<ol style="list-style-type: none"> 1. Water supply 2. Evaluation of failing wells 3. Zoning regulations, locations of septic tanks, wells, termite-treated buildings 4. Sewage disposal 5. Information exchange of current health issues 6. Natural hazards mitigation 7. Storm water management 8. Failing septic tanks 	<p>Health District</p> <p>Local communities</p> <p>Intergovernmental agencies</p>	<p>Planning skills</p> <p>Facilitation skills</p> <p>Grants, loans</p>	<p>Yes</p> <ul style="list-style-type: none"> • Identification of failed septic tanks • Public water, waste water availability • Zoning regulations <p>Collaboration with “sanitarians” and county health departments</p>	<ul style="list-style-type: none"> • Need data, resources maintained by health district 	<p>Time, “we don’t have or take time to follow the workings we’re each dealing with”</p> <p>Money</p>	<p>Time</p> <p>Money</p> <p>“the resources we have are very limited and our discretionary resources are even more limited than that”</p> <p>Issue of salaries being directly related to projects, not necessarily to develop partnerships</p>	<p>Organization: “benefits from being able to better service our clients who are our localities and people within the region”</p> <p>Financial, share in grants</p>