

Complexity, Science & Society Conference 2005
The Centre for Complexity Research
University of Liverpool
September 11-14, 2005
Politics and International Affairs
Beyond Bureaucratic Boundaries:
A Case Study in Human Systems Dynamics

Glenda H. Eoyang, Ph.D.
Executive Director
Human Systems Dynamics Institute
geoyang@hsdinstitute.org

Lois Yellowthunder, Ph.D.
Principal Planning Analyst
Hennepin County
lois.yellowthunder@co.hennepin.mn.us

Introduction: A Tale of Two Counties

Many years ago, in my¹ first job in county government, I staffed a taskforce charged to transform a small urban county from a set of independently elected row officers to a modern organization with a professional manager reporting to a policy board. Trained as a socio-cultural anthropologist, I approached the county as a small community, using the methods and tools I had been taught. I looked for formal and informal political structures, social networks, communication patterns, organizational culture or worldview and formal and informal norms and values. I studied written reports, observed and participated in many meetings and other events, conducted ethnographic interviews, and generated a huge list of suggestions. My extensive report was generally ignored. The row officers remained in place.

Too late, I realized I was asking the wrong question. I asked, “What needs to change?” And I received an unlimited list of improbable possibilities for changing the structure. I should have asked, “What forces operate to maintain the status quo?” Then I might have had a chance of finding a small number of powerful interventions to shift the structure-forming capacity of the county. Over time, the structures could have adapted to meet the needs of multiple stakeholders and changing circumstances.

The models, tools, and concepts I used to understand and make recommendations for change in this county were largely descriptive categories representing static and pre-determined units of analysis. As

¹ Many pragmatic issues shape this study. Lois Yellowthunder shares her own experiences over time with organizational change in bureaucracies.

such, they were specific to particular taxonomies, but not informed by the unique dynamics of this county at this place and time. Because these approaches did not explore the dynamics of the system, they were not helpful in generating options for action that could either work with or shift the powerful dynamics at work in the system.

As we² consider cross-departmental and cross-jurisdictional transformation, we need theory and methods that make the underlying complex dynamics in our systems manifest and allow us to generate action strategies based on those understandings. This distinction between descriptive taxonomies and manifest dynamics is effectively described by Washburn and Crowe in their study of symmetry in material culture designs. They contrast the efficacy of “style” which is a descriptive concept with a classification that is based on manifest geometric principles of symmetry:

Style is not a theoretical concept like evolution or gravity. That is, it does not summarize a specific kind of relationship within a general class of phenomena. Quite the opposite: style summarizes the general similarity within a specific body of things. Styles, like types, are merely descriptive classifiers. Both describe attributes which co-occur consistently enough to be recognizable. They concern similarities in a specific body of phenomena (designs from one place), rather than generalizations about a class of phenomena (design). They do not describe a specific kind of relationship and the implications of the relationship. It is this very lack of explicitness about relationships that renders the concept of style, as currently used, an ineffective explanatory concept (Crowe and Washburn, 38).

In our experience, traditional anthropological and management methods allow us to “summarize the general similarity within a specific body of things.” They function as “descriptive classifiers.” We believe that a theory and collection of methods that allow us to understand specific relationships and the implications of the relationship will help us to understand better and intervene more effectively in the complex dynamics of cross-jurisdictional relationships.

Options have been identified for methods that explore processes that produce structural forms, rather than just classify them. One of the early formulations of a dynamic approach was presented by the anthropologist Fredrik Barth.

Rather than focusing on structural form [Barth] advocated a focus on the processes that produce structural form. Central to these processes is the capacity of people to make choices. Such choices are constrained by existing values and norms, reflect the incentives and goals embraced by individuals, and are modified by the transactions into which they enter. The end products are patterns of behavior which are formed and reformed over time. Barth labels this procedure the search for generative models,

² Together, the authors participated in the longitudinal transformational effort described here. Practice in a bureaucratic setting and theory and practice with human systems dynamics shaped the collection and interpretation of data as well as the design, implementation, and evaluation of interventions.

because what the investigator does is attempt to generate the principles conditioned by constraints and incentives that result in structural form.

Barth certainly provided interaction theory with a clear, promising, and unique procedure, yet over the years it seems fair to say that his generative models have been more admired than followed. Perhaps his successors have simply not been talented enough to match the level of theoretical sophistication demanded by his generative models (Barrett, 103).

These are the types of models that will allow us to describe and influence the complex interactions between organizational groups within bureaucratic institutions and between institutions that seek to work collaborate with each other.

When I began my career in county government and Glenda began hers as an independent consultant, we had neither the conceptual framework nor the methodological tools for understanding the complex and emergent dynamics of the organizations who were our clients. We had no way to see or describe the relationships that influenced its tendencies to stability or change. As a result, I had no idea how to generate strategies that could change the capacity of the county to change itself to a more adaptive structure. The science of complex adaptive systems has begun to provide both understanding and method to make manifest the dynamic relationships that influence change in bureaucratic structures.

Theory and Methodology

Twenty years later, we are working with a change process in another county. We are beginning to understand a great deal more about the dynamics of complex adaptive behavior of human systems. We have theories, models, methods, and tools that we didn't have twenty years ago, and new ones are being created (or discovered) every day.

In this paper, we describe a series of interventions we have made because we assume the complex adaptive nature of a bureaucratic structure, we describe the results of those interventions, and we share current questions that will fuel future cycles of iterative adaptation for us and our clients.

Assumptions

We use a model and methods derived from complexity theory for describing, analyzing, intervening in, and evaluating human systems. This work is in its infancy and many issues and questions remain to be addressed. At this point, however, our work is based on a number of assumptions.

We assume that human systems, even bureaucratic ones, are complex adaptive systems because they include quasi-independent agents, interacting over time, and self-organizing as a group to form system-wide patterns. Under conditions of high constraint or across short period of time, human systems may appear to be stagnant or their processes of change might appear to be predictable. Over time, however, and considered across multiple scales, human systems are continually self-organizing to generate and/or sustain patterns of system-wide significance.

We assume that multiple human systems interact and form massively entangled CASs at multiple scales—community, municipality, county, state, national structures. We also assume that within a governmental structure, some CASs are formal (e.g., departments and levels of management) and some are informal (e.g., social connections, historical relationships, affinity groups).

We also expect that not all self-organizing processes are healthy and/or productive. Sometimes systems organize in alignment with one set of concerns and parameters, while survival of the system will ultimately be determined by another set or at another level of scale. In such a situation, survival is the measure of success, and fit determines survival. A system's ability to respond and adapt to changes in its numerous and massively entangled contexts will determine whether a particular self-organizing process was good (productive or successful) in a given place and time.

Many of the interventions that emerge from a complex adaptive systems perspective are not new. Descriptive models, trial-and-error practice of the past, and various other approaches have generated strategies that have proven effective in bureaucratic transformation over time. From our perspective, CAS may question some well accepted strategies, but in general it does not replace them. Because complexity supports basic understanding of the relationships and implications of relationships it provides two benefits over previous approaches. First, it does not require an actor to have control over the system as a whole or over a long period of time. CAS-based interventions can be intermittent and at various levels of organization and still have profound effects on the self-organizing process and outcomes. Second, a CAS perspective allows a practitioner or theoretician to take a long-term view of emerging dynamics. The flow from one situation at one point in time to another at a later point can be seen as a continuing, though not predictable, process of dynamic interaction. Both history and future can serve as context for the present as individuals and groups seek understanding and action. The Hennepin County case, which we describe here, demonstrates both of these benefits of CAS perspectives to cross-departmental and cross-jurisdictional interventions.

Finally, we acknowledge a plethora of complexity-based approaches that are currently under development, and we understand that ours, based on the CDE Model, is only one of the many. Each of these approaches shows promise, and each can contribute to our on-going process as we develop new theory and practice to improve the performance of people and their social systems.

Context

In this study, we illustrate the applicability of one particular complex adaptive approach in cross-departmental and cross-jurisdictional transformation using a longitudinal case study involving Hennepin County. Hennepin County is the largest county in the State of Minnesota, located in the upper Midwestern region of the United States. The county contains over one-fifth of the state's population of approximately five million people. Within the county, multiple management levels, organizational structures, program foci, professional affiliations, and personal and professional lives of individuals, can be seen to function as interacting agents in emergent complex adaptive systems (CASs). The relation of Hennepin County to the State of Minnesota likewise represents a CAS at another scale. Relationships of neighborhoods, municipalities, and communities within the county; other counties within the state; and with federal agencies comprise yet other scales and contexts in which various complex adaptive systems are massively entangled and mutually dependent. A change or persistent resistance to change in any one of these contexts has the potential to affect the self-organizing dynamics of the whole and of other parts.

In this paper we describe a seven-year self-organizing and transformational process involving multiple departments and jurisdictions that affect the delivery of human and social services in Hennepin County as it seeks to integrate services and improve outcomes for clients.

CDE Model

The CAS-influenced tool that we use for data collection, analysis, intervention, and evaluation is the CDE Model. It focuses on conditions that influence the speed, path, and outcome of self-organizing processes in human systems. The CDE Model, developed by Glenda Eoyang identifies three conditions – containers, differences and exchanges – that influence the speed, path, and outcomes of self-organizing in human systems.

Containers (C) bound the system and hold it together. Containers may be physical, conceptual, or emotional. Physical boundaries, such as geographical delineations or office spaces, can establish effective containers to influence the evolution of human systems. A schedule or shared vision, mission,

or goal can serve as a conceptual container. Personal relationships or identity affinities can serve as emotional bonds that hold individuals together to self-organize into coherent system-wide patterns. The size of the container affects the speed at which the self-organizing pattern forms. All other factors being equal, smaller containers tend to accelerate the process of self-organizing, while larger containers slow the processes down. Intuitively, one experiences this distinction in container size when a small, local group is able to come to consensus more quickly than a large and widely dispersed one. With approximately 3,000 staff, the Human Services and Public Health Department is the largest department of Hennepin County Government. The diversity of staff, their geographical distribution, and the difficulty of communication constitute a large container to shape dynamics. These characteristics make it difficult to generate or sustain coherent department-wide action.

Significant differences (D) are distinctions among the agents in a system. These differences establish a potentially generative tension that can move the self-organizing process forward. In an organization significant differences might include power, resources, seniority, language, and mission. On a community or national scale, relevant differences might include religion, ethnicity, race and social/economic status. Any human system includes an unlimited number of differences, some are significant and others are not, but each difference represents a specific potential for change. Each difference establishes an asymmetry that may function as an instability and move the system toward change. All other factors being equal, too many differences delay coherent self-organizing processes. When many differences are recognized as significant, individuals are unable to align their attentions, and system-wide patterns are slow to develop, if they develop at all. On the other hand, too few acknowledged differences tend to focus a group into either/or thinking and encourage a dynamical process toward bifurcation. These two extremes can be observed in political parties, when one sustains “too large a tent” and the other focuses on too narrow a definition of issues and concerns.

The second way that significant differences influence the self-organizing process is that they establish the distinctions that appear as system-wide patterns as the process moves forward. For example, if seniority is a difference that is significant in a particular group, then that difference will affect how the members interact, and their decisions and shared agreements will be shaped by considerations of seniority. Difference motivates the change and shapes the emergent pattern.

Over the course of our work with Hennepin County one difference emerged that had unexpected influence over the change process. Various programs across the county were designed and dominated by different professional disciplines. For example, nurses had historically shaped the program for home

visits for the elderly. Social workers had managed adult protective services that defended the rights and safety of elders at risk. Financial workers had designed and continued to implement systems for cash assistance, and health administrators had been in charge of nursing home regulation and certification. As services for the elderly moved toward integration, differences among these professional disciplines generated major concerns. Values, procedures, language, pay schedules, and other professional expectations were major differences among staff members. In a variety of situations, these differences had to be articulated and addressed before individuals could begin to design a system to integrate services for clients.

Differences and containers bear a complex and dynamic relationship to each other. The relationship between differences and containers becomes significant in the course of the study, so we will introduce the distinction here. Differences at one level of scale in a system function as containers at the next lower level. For example, in a mixed gender group, male/female differences can generate interesting dynamics. When considering only the males in the room, however, the gender distinction functions as a container. In the homogeneous group focus shifts to differences among the men. Likewise, containers at one level function as difference in the level above. For example, in Hennepin County, the various human services departments functioned as isolated entities—boundaries between departments were containers. Early in the project only work within those containers was considered worthwhile. In the course of the intervention, attention was shifted to encourage people to see boundaries around departments as differences that made a difference in the larger county. This shift introduced opportunities for new engagement and transforming interdependencies to build system-wide, integrated patterns of behavior across the county as a whole.

Transforming exchanges (E) represent transactions and connections between and among agents at any level. They include resource flows such as information, money, and energy. Within a container, the potential power of significant differences is released through transforming exchanges among agents who embody those differences. The speed, length, and direction of exchanges influence the self-organizing process in many ways. Faster, shorter, and damping exchanges tend to move the self-organizing process forward under more control, more quickly, and in less ambiguous fashion. Slower, longer, amplifying exchanges, on the other hand, support self-organizing processes that are less controlled, slower, and more ambiguous.

At Hennepin two communication methods were preferred. Email was used extensively for case-specific correspondence and for regular broadcast messages to all staff. The large number of emails led many

staff to focus on the most urgent messages and ignore the rest, so broadcast messages were often ignored. The chain of middle managers was the other mechanism that was used to distribute messages of system-wide importance. This face-to-face approach proved highly variable across the county because individual managers and supervisors had different understanding of, commitment to, and interest in transmitting information to staff. As a result of depending on these two unreliable exchange mechanisms, system-wide communication at Hennepin County was not well controlled, slow, and quite ambiguous. Weak and unreliable transforming exchanges contributed to the development of localized, rather than systemic, structures.

These three conditions for self-organizing (containers, differences, and exchanges) are coupled to each other in complex, nonlinear ways.

A change in one condition not only affects the self-organizing process of the whole, it often has a direct affect on each of the other two conditions. For example, expanding geographical boundaries (container), can increase the diversity of resident voices (differences), and reduce control over interactions (exchanges) among citizens or between citizens and government. Measurement is another example of the interdependencies of the conditions for self-organizing. Measurement can be introduced to improve communications between workers and management (exchange). As measures emerge, accountability is more clearly assigned (container) and new criteria for success (D) emerge. It is possible to interrupt such naturally occurring dynamics among the containers, differences, and exchanges of a system, but countering them requires significant resources and insights into their dynamical interactions.

Any of the three conditions can constrain behavior and/or reduce the degrees of freedom of agents in a system. The level of constraint, in turn, characterizes the behavior of individual agents and the whole as the system-wide behavior emerges.

Table 1: Implications of the CDE Model summarizes the influence of each of the conditions on the levels of constraint and the emerging patterns of the whole.

Table 1: Implications of the CDE Model

Conditions for Self-organization	High Constraint	Medium Constraint	Low or No Constraint
Container	Small and few	Many and entangled	Large and many
Difference	Few	Many Some significant	Innumerable
Exchange	Tight Clear	Loose Ambiguous	Arbitrary Meaningless
Emergent Behavior	Predictable patterns Rigid Structure Linear cause and effect Tight coupling	Emergent patterns Emergent structure Nonlinear cause and effect Loose coupling	No patterns Random No cause and effect Uncoupling

Also, the conditions occur naturally in human systems all the time. Stronger or weaker, more or less explicit, every group of people is held together, differentiated, and connected in some way. An intentional intervention does not create the conditions for self-organizing. Rather, it attempts to shift one or more of the conditions to influence a change in the self-organizing process and the emergent patterns that result.

Longitudinal Transformation

In Hennepin County, the path from conceptualization to realization of integrated services has been long and arduous. Though detailed strategic and tactical plans have been developed and implemented (with variable success) at multiple levels and parts of the organization, the progress of change has been unpredictable. In retrospect, we will describe four phases of the transformation: status in 1998, intermittent interventions between 1998 and 2004, status in 2004, and interventions that are currently in process for 2005.

Status in 1998

Since the 1970s, Hennepin County was recognized across the United States as an innovative and effective unit of government. Over the years, various projects in the county had been described in reputable journals, and some Hennepin programs had national reputation for quality and effectiveness.

Traditionally, human services in Hennepin County had been funded and administered through program-specific infrastructures. Staff focused on eligibility criteria, services, and client interactions around isolated needs and resources. A client who needed multiple services was required to interact with distinct county offices and departments, each of which was isolated organizationally and programmatically from

all others. As a result, clients were frustrated and at times received inappropriate services, programs were placed in competition for limited resources, and comprehensive data on service delivery and outcomes were unavailable. The goal of the redesign project throughout its history was to establish an organization, processes, and staff who would be able to assess the all-around needs of clients, develop packages of services to meet the needs of individual clients, and collect and analyze data over time to test the efficiency of service delivery and the efficacy of results experienced by clients and their families.

Before the vision for integrated services emerged, decisions were made in accordance with organizational and legislative containers. The County Board of Commissioners, elected by citizens to represent geographical regions of the county (together with the elected offices of the Sheriff and County Attorney) were the primary policy-making group for the county. County Administration included executive leaders responsible to guide the county in its efforts and to implement the policy directives of the Board. Health and human services were delivered by ten distinct departments, each of which was led by a Director who reported to the County Administrator and many of whom had close personal relationships with members of the Board. These Directors met periodically to form the Community Services Group (CSG) Directors. This was the group that envisioned and began implementation of a system of integrated services across the county. The other relevant container that shaped the status in 1998 was the complex portfolio of federal, state, and county programs that were administered by county staff. Each program had its own requirements, structure, and funding streams.

Within these rigid structures, power was a primary difference that made a difference. Power was derived from legitimate authority, access to resources, and personal influence. The Board and Administration dealt continually with the critical distinction between elected and appointed positions. Within departments and programs, a wide variety of significant differences arose depending on the program priorities, target audiences, and eligibility criteria.

In this traditional structure, funding streams were among the most powerful transforming exchanges. In some circumstances, personal relationships and accommodations influenced decisions, though not outside the bounds of legal or ethical constraints. Formal meetings allowed Directors to share ideas and concerns about new strategic directions, though these conversations were slow to influence behavior of each Director in the context of his or her department. At the level of client interaction, exchanges involved program-specific information exchanged between one client and one worker.

All in all, the status of human services in Hennepin County in 1998 was what one would expect from a large and bureaucratic organization that administered government programs. It is important to note, however, that from 1996-1998 a number of conditions were present and actions taken that generated subsequent changes. These included a champion for change in County Administration, the creation of a new initiative known as Results and Community Solutions (RCS), and significant funding for the initiative from a Community Foundation.

Intermittent Interventions 1998-2004

Our team worked with Hennepin County over a period of seven years, from 1998 to 2004. The business objective was to improve client outcomes by integrating the delivery of public health and human services across a wide array of state, federal, and county programs, all of which were administered by the county. Programs included employment, health care, corrections, economic assistance, and social services.

Throughout this period, leadership was a critical issue to the success of the integration of services and organizational transformation. Insightful leaders were able to focus energy and resources to maintain momentum and focus. The earliest champion of the project moved out of County Administration and into a director position and was able to devote all her time to managing the project. She identified a variety of factors that affected change during this period, including the opportunity for her to focus exclusively on strategic planning for service integration, her ability to take advantage of opportunities as they arose, to rely on relationships that had developed over time inside and outside of the county, and to develop new relationships with foundations and other potential partners. Leadership continued to be an issue as the project moved forward. The second person to lead the effort, also from County Administration, was quite politically adept, continually articulated a vision of service integration through a self-organizing process, and patiently implemented new approaches as opportunities arose.

Over the period of our engagement, many different projects focused on various aspects of service integration. Some of those initiatives were supported directly or indirectly by our team, and others progressed independent of our involvement.

Our team, including one full-time employee of the county in the staff role of Principal Planning Analyst and one external consultant, worked with a variety of internal teams as we provided services intermittently over the study period. Over time, we individually and collectively had a wide variety of

responsibilities, including training, facilitation, project management, instructional design, communications consulting, executive coaching, grant administration, organizational design, event planning, conflict resolution, and process and project evaluation. At no point were we the primary, or even dominant, influence over the organization and its transformation. In each of these roles, however, we consistently used the CDE Model to assess the current system dynamics, design interventions to shift the conditions, and influence the self-organizing process as possible within the scope of a particular project or assignment.

Container

Some interventions focused on shifting the relevant containers. At an earlier stage, *Results and Community Solutions Initiative*³ established the first set of strategies focused on integration of services. A *pilot project* was initiated to experiment with issues and opportunities of integrated services. A *Strategic Leadership Team* was established to include directors from across the county, including human services with other county services. The purpose of this group was to encourage strategic planning in each department and county-wide planning for strategic objectives. *Programs of services* were defined based on target audiences and related services. Various community-based *collaborative efforts* were initiated or strengthened, including programs for school attendance, teen pregnancy, housing, and transportation. We drafted a *schematic diagram* of county entities and interactions in an effort to articulate the major stakeholders in the county transformation and encourage new relationships among the parts. In addition to county-wide projects, many departments were simultaneously *reorganizing to improve integration* of the related services they delivered. For example, one department used principles of socio-technical systems to establish multi-functional *client service teams*. Some of these container interventions were more successful and others were less, but each one disrupted the old stable structures and encouraged evolution of new significant differences and transforming exchanges across traditional boundaries.

Difference

Other interventions shifted focus to new significant differences. Various projects sought *grant funding*, so the criteria for external funding became relevant for emerging projects. Over time, 30% of the human services *senior management left* the county to pursue other professional and personal objectives. With

³ Projects that appear in italics are summarized in *Table 1*.
Beyond Bureaucratic Boundaries

their departure, the remaining Directors were able to focus more clearly on shared objectives. *Research projects* reported information about clients and processes to support data-based decision making. One project, *200 Families Study*, provided in-depth information about the 200 families who required the most support from county human service programs. The study helped identify differences that made a difference in the level of needs and success of the county's clients. A CAS-based *decision making model* was introduced that helped individuals consider the complex components of their own decision processes (world view, rules, and reality) and to be more respectful of the complex landscapes that shaped others' decisions. The decision-making model led us to recognize differences among the worldviews, rules, and perceived realities of various *professional disciplines*. Cross-functional teams and joint training sessions began to build effective connections between disciplines and programs. *Traditional loyalties* and relationships continued to have significant influence over emerging patterns, and whenever possible, we used those differences to strengthen integration and collaboration. A results-focused approach shifted attention to *client outcomes and overarching objectives* as the goals of service delivery and decision making. *Performance management systems* were designed and implemented across the county, and individual programs and *service areas reorganized* in response to new environmental and legislative requirements.

Exchange

A final set of interventions were designed to establish new or shift old exchange habits among constituencies in the county and community. A new *budget process* allocated resources to the overarching objectives, rather than traditional departments and programs. *Meetings* were held regularly to bring people together across organizational and disciplinary lines. New norms and protocols were established to improve the *effectiveness of meetings*. Various *studies* were launched to collect, analyze, and report on the efficiency and efficacy of programs. *Large-group events* were held to bring the "whole system into the room" to consider issues of broad concern. A *Data Sharing Project*, which emerged from one such Action Conference, supported infrastructure that encouraged staff to talk with each other about clients and their needs. A *Management Academy* was established to improve skills and encourage networks among managers across departmental lines. Various *procedures* for project management, documentation, team building, and conflict resolution were documented and implemented to improve communication and reliability. County staff *met with leaders from state agencies and other metropolitan counties* to explore ways to work together to integrate services for clients. Various formal and informal

inter-departmental projects were initiated to explore options for improving service delivery and client outcomes.

Each of these interventions affected the dynamic relationships among individuals and institutions. In some cases the effects were slow and ambiguous. In other cases no effects were evident. Over time, however, the combination of the many interventions shifted the organization-wide patterns of process and culture to establish new methods for service delivery.

Status in 2004

At the beginning of 2004, a major organizational change effort articulated and accelerated the county's transformation toward integration of services. This initiative, called the Reorganization and Redesign effort, moved the organization forward on many fronts.

Container

The reorganization created a single Human Services and Public Health Department out of six of the original CSG departments. The new mega-department was organized not by traditional programs and bureaucratic distinctions but according to the client outcomes and overarching objectives identified in 1998. The new organizational groups were called Service Areas and were led by Service Area Directors and Service Area Managers. Cross-functional projects that had emerged informally were formalized and funded. A cross-functional Redesign Team was staffed with full-time planners to help guide transformation efforts. A communications specialist was hired and added to the Redesign Team. Community collaborative efforts were re-examined and reorganized to improve the strength, accountability, and focus of the efforts.

Differences

Each of these newly emergent subsystems was encouraged to focus on client needs and client outcomes as the significant differences. Staff competency to meet the needs of clients was another significant difference that emerged. Training, organizational assignments, accountabilities were shaped around providing services to clients. Three distinctions remained from previous structures that continued to be a challenge to integration of services. First, senior management focused on organizational transformation more than on improving performance of individuals or processes. The vision for integration of services

was widely accepted and supported in theory, but the implications for practice were unclear or inconsistently understood. Individual and organizational preferences had established two decision-making approaches. Some of the staff, particularly social workers who had come from community health and children's services, based decisions on professional judgment and expected to be free to work within fairly broad bounds of professional ethics and organizational constraint. Other staff members, financial service workers who had worked mostly with economic assistance programs, based decisions on clear and explicit rules of performance. Each of these approaches was recognized as valuable in a specific context, but within the larger department a competition emerged to define which of these decision-making approaches was preferred.

Exchanges

Effective exchange mechanisms were evolving over time. Small groups engaged in cross-functional problem solving. Data sharing and other technology systems established easy and cost-effective ways for staff to share information about clients. Collaborative conversations continued with community partners, and a project to simplify contracting relationships with vendors had begun. In addition, the County Administrator defined employee commitment and engagement as a high priority for training and management performance.

Though some county services, individuals, and teams were still isolated by procedure and program, the connections across the department were beginning to make integrated services a reality in some situations and an inevitable expectation in others.

Interventions in Process 2005

At the beginning of 2005, when the Reorganization and Redesign effort was one year old, the County initiated a formal assessment to evaluate the status of organizational integration and to recommend steps to move the work forward. Again, some of the changes influenced containers, others shifted differences, and still others reshaped exchanges.

Container

Two new organizational structures were added to support cross-departmental decision making. Horizontal Teams were assigned specific projects of system-wide importance. Examples included a Front Door function to integrate and simplify client access to all HSPHD services, teen parenting programs, and

school success and attendance programs. Leadership Teams were established for Administration, Continuous Quality Improvement, Strategic Planning, and Operations to provide department-wide input into strategic and key tactical decisions. Redesign efforts were begun to streamline, consolidate, and simplify efforts to collaborate with other governmental and community entities. Clerical services were reorganized to ensure more consistent and higher quality support across the department. A large number of change projects (more than 100 since 2003) were recognized for their accomplishments and provided with training and protocols to make their work more efficient.

Differences

Significant differences continued to shift away from the traditional bureaucratic and toward a focus on client results and staff effectiveness. A short list of simple rules was established and reinforced in a variety of ways to encourage all staff to align their efforts. The shorts and simples articulated the containers, differences, and exchanges that would move the dynamics of the department further toward an integration of effective client services:

1. Build success for yourself and others.
2. Develop people and processes that improve outcomes.
3. Stay connected.
4. Learn your way into a shared future.
5. Decide and trust others to decide.

Other significant differences had begun to emerge. Client groups were being differentiated based on their level of needs. Levels of need was determined by the length of time the client required services, the number of services required, and the amount of support available to the client from family and community. This difference coincided with reductions in state and federal funding. Thus inter-jurisdictional exchanges at the state and federal level affected differences at the county level. In addition, housing and transportation issues, which had always been outside the domain of county human services, were emerging as major concerns for county collaborative relationships.

Exchanges

Across the department, new exchange mechanisms were emerging to support the emergence of system-wide patterns. An integrated business information system was under development. A team of facilitators was trained to support group interactions across the department. A cross-functional project was designing an integrated client interface called the Front Door. Recommendations from the Redesign Assessment

were being discussed and implemented. A new phase of the Data Sharing Project was underway to expand the kinds of information available and to increase the number of users across the county. Formal surveys of clients and staff were underway. Monthly emails summarized changes as they occurred and celebrated the accomplishments of specific groups and projects.

Though total integration of services was not complete, the patterns of interaction were clear, some services were working well together, and the potential for full integration was strong. Seven years of multiple interventions had shifted the conditions for self-organizing to help the county establish infrastructures and relationships to support integrated human and social services.

Table 2. Shifting Patterns provides an overview of the status of HSPHD services in 1998, some of the interventions designed to shift that pattern from 1998 to 2004, the status of the system-wide patterns in 2004, and interventions that are currently underway to move the organization to its next phase of adaptation. The next section of the paper describes some of the ways we used the conditions for self-organizing to help the organization through the transition from silos to integrated service delivery.

Table 2: Shifting Patterns

	Status in 1998	Intermittent Interventions 1998 - 2004	Status in 2004	Interventions in Process 2005
Containers	County Board of Commissioners County Administration 10 Community Services Group (CSG) Departments CSG Directors' Group Federal and state service programs	Community-based project (The Center) Visionary leadership RCS Initiative County-wide Strategic Leadership Team Programs of services Community collaborative projects (e.g., School Success) Schematic diagram of whole Team-based service delivery (EA)	Single HSPH Department Formal cross-functional projects Redesign Team Community collaboratives & relationships Management structure: Service Area Directors and Service Area Managers	Horizontal Teams Adaptive leadership Leadership Teams Future structure of Collaboratives Support Services Redesign Change projects (more than 100 since 2003)
Differences	Power Elected/appointed roles Personal and institutional power Program-level priorities Eligibility for specific programs	Client outcomes and overarching objectives Grant funding for integration projects Individual managers left the organization 200 Families Study Professional identities (e.g., nurse and social worker) Traditional loyalties Decision-making approaches (worldview, rules, reality) Program reorganizations and realignments Performance measurement	Client outcomes Client needs Staff members' needs and skills Services Areas organized by professional expertise and client needs Focus on changes to organizational structure Vision of service integration is clear, but implementation path is not Rule-based and judgment-based decision making	Short list of simple rules Clients differentiated by groups Client family and community relationships Transportation and housing projects
Exchanges	Information sharing strictly "need to know" Financial transactions Formal meetings about vision and strategy Personal relationships Personal accommodations Focused and single-purpose client interactions	Data Sharing System Shared budget and budgeting process Regular management meetings Data collection and reporting Action Conferences Balanced Scorecard Management Academy Project mgt protocol Meetings with other counties Informal inter-dept projects	Cross-functional problem solving Data sharing for service improvement Community collaboration Engagement with staff Vendor contracting	Integrated business information system Team of trained facilitators Front Door interface with clients (business process redesign) Redesign Assessment Data sharing in support of service integration Employee and client surveys Monthly updates on changes

Projects described in this paper appear in **bold** on Table 2.

CDE in Specific Interventions

During the study period, many different interventions (not all supported by our team) moved the transformation forward. Each action, however, affected the conditions for self-organizing by increasing or decreasing the constraints and reshaping the emerging patterns of service integration.

Each meeting, each conversation, and each planned intervention over the seven years of this engagement provided opportunities to shift the conditions for self-organizing within a different group and with regard to a different issue. Some attempts were more effective in the short term than others. Some attempts were not immediately effective, but over time their effects could be seen. Often, results of a specific intervention were not visible in group interactions, though individuals would report that their perspectives had been changed as a result. And quite often, a particular intervention appeared to have no influence at any point in the system at any time. In short, this self-organizing approach to organizational transformation was messy and unpredictable.

Even if we could trace the causal relationships between each of our actions and their systemic results, we would not be able to tell the entire story here. Rather we will focus on three initiatives and trace their development over time to illustrate how we used the conditions represented in the CDE Model to help shape the conditions for the self-organizing process that helped Hennepin County move toward integrated delivery of human and social services.

Though any intervention ultimately affects all three conditions (C, D, E), each one has a primary strategy related to one or another of the conditions. Here, we will discuss in some detail one intervention that was targeted primarily at each of the self-organizing conditions: Container, differences, and exchange.

Container Intervention—Community-Based Project

The traditional structure of service delivery was based on individual programs, with each one enforcing its own rules, policies, procedures, and staff. To disrupt this pattern and establish an opportunity for a new pattern to emerge, the leadership team obtained grant funding established a

pilot project, The Center, to deliver a range of services from a community-based facility. This project shifted containers in many ways. First, the funding came from a Foundation, rather than from the standard funding pools of the county. Second, the project was to be placed in and integrated with a specific neighborhood to break out of the traditional bureaucratic pattern. Third, the smaller facility housing multiple services would encourage, if not force, workers to collaborate to meet the needs of individual clients.

The success of the venture depended to a great extent on the woman selected to lead the effort. The project leader came from within the county and had worked with juveniles, for whom integration of services is an urgent concern. She had lived in various places around the world, so she understood how to make herself at home in a new and unstructured environment. Her friendly, open way and natural curiosity helped her connect with her staff and with community leaders. She was able, in this new and emerging container, to establish transforming exchanges in ways that helped new patterns emerge quickly.

From the very beginning, the leader was challenged to focus her staff on differences that made a difference to clients, rather than to the restrictive programs they were familiar with at the county and the disciplinary distinctions that were part of their education and professional lives. She began this educational process by establishing another, internal container in the form of a weekly staff meeting. At this required meeting, a diverse group of nurses, social workers, probation officers, and financial workers shared their perspectives and concerns about individual clients. Over time, the group learned to see a variety of significant differences when they considered the welfare of a particular client or family.

Finally, the leader required that each staff member spend some time engaging with the community. She realized that the residents of the neighborhood had different interests, experience, and concerns than some of her staff. They needed to learn, from the community itself, what differences made a difference in the lives of their clients.

Over time, the team established effective patterns of interaction with each other, the community, and the clients. Long-term evaluations indicated that outcomes for their clients surpassed those of the rest of the county, and though some staff members chose to leave the Center, others found

new energy and opportunities for working with clients to improve their lives and the lives of their families.

Though the emergent patterns in the Center proved quite successful for staff and clients who were closely involved, influence on the department-wide patterns were not as effective. As a pilot project, the Center became isolated from the rest of the department. The innovative container intervention established a deep schism between the Center and the information, budget, and communication patterns that shaped decisions in other parts of the department. Staff members in other programs resented the special role of Center staff and did not understand or value the insights and emerging learning that might have come from the Center. Because there was no plan for knowledge transfer from the Center to the rest of the department, no wider learning and no system-wide pattern could be established.

Today, the Center continues to provide services in its neighborhood and to look for ways to share the lessons they have learned with the rest of a county that still struggles with service integration. At other levels of scale, however, The Center has facilitated transformation. Individuals who have been involved at the Center as staff, visitors, clients, or community partners carry their lessons with them into other and massively entangled containers inside and outside of public human services. The community that houses The Center has marked some improvements including improved school attendance, and individual clients and families have received the benefits of integrated services.

Difference Intervention—Client Outcomes and Overarching Objectives

Any organizational transformation requires a goal, a target, some pattern in a preferred future. In our experience the most effective way to make such a vision explicit is to define the differences that will make a difference when the future pattern has emerged.⁴ The goal statement is part of

⁴ Sometimes leaders and consultants focus on the differences between today and the future state to motivate change, but in our experience with complex adaptation, such a “gap” approach is less effective than a clear and concise picture of the future state. We find that differences among the components within the future vision are the motivators and generators of change. We speculate that this is true because the gap strategy unintentionally reinforces the current state, rather than focusing all players on a new pattern to come.

practice and ritual of planning, but when it is connected with the dynamics of emergent patterns, it is more easily translated into options for action.

The leadership team at Hennepin County recognized the need to shift the attention of the system away from internal values and process measures to focus on client outcomes. Integration at the point of service delivery would drive organizational and procedural changes within the county human services structures. From the CDE perspective, this meant determining the differences that will make a difference in clients' lives and allowing those differences to drive transformation in the organization and in service delivery policies and procedures.

Among the leadership team and their staff supports, there were differences of opinion about what constituted valid outcomes and outcome measures. Rather than focus attention of the group on a semantic and academic question, we named the set of target differences as “overarching objectives.” In this way, the group bypassed a hair-splitting conversation and focused on the differences that made a difference to the emerging patterns for the county and its clients.

After some data collection and conversation in small and large groups, the Community Services Group leadership team (consisting of directors from 10 departments involved in delivering social services) defined the following overarching objectives for family members and households: Safety; increased stability and self-reliance; livable income.

Over the years, these objectives have remained relatively stable, though time and individual preferences have made adjustments in the language used to present them. These objectives have served as critical differences in decision making as various county programs have moved toward integration of services.

First, the objectives were used as the foundation for a county-wide planning process that included detailed strategies for improving performance in each of these objective areas.

Second, the budget that covered six of the ten departments was restructured to focus on how resources were allocated to each of these objectives within each of the major target audiences among clients.

Next, groups of middle-managers from across the county whose work focused on the same objective were brought together to discuss their various programs, initiatives, challenges, and opportunities.

The County Board of Commissioners, who had traditionally not understood or supported delivery of human services, recognized the power of the overarching objectives. They came to embrace them as goals that their voting constituencies could understand.

Some programs used the outcomes as the foundation for intake questionnaires. When a new client approached an office for support, he or she would have the opportunity to report on safety, stability, self-reliance, and income. Depending on their responses, some clients would be provided with additional and/or more relevant services.

Over time, new county-wide projects emerged to address specific challenges related to one or another of the objectives. For example, though the county had not been involved in housing and transportation traditionally, the overarching objectives spurred them on to work in collaboration with communities to respond to these needs of clients.

Finally, in 2004, the organizational structure of the county changed. Six of the most closely related county departments merged into a single Human Services and Public Health Department of 3,000 staff. This mega-department was organized internally according to the overarching objectives, with Service Areas defined to address each one and its logical subdivisions.

In this way, the objectives served as differences that made a differences throughout the system. They motivated change in the county and also to defined the essential framework of what the emerging pattern as to include as the system self-organizing process continued.

Exchange Intervention—Data Sharing

Early in the project we recognized a major inhibitor to effective integration of services—the inability for one service provider to share information about a client with another service provider. Data privacy had been protected traditionally by a variety of factors. State and federal legislation and regulations restricted sharing of client data among government agencies and programs. This factor was further complicated because different attorneys within the county system, in other counties, in state agencies disagreed about the interpretation of data privacy laws. Some programs went beyond legal restrictions to control access to data, believing that privacy was in the best interest of the client. Computer systems and on-line data bases had been designed to meet the needs of isolated programs, so they did not support effective sharing of data. And, perhaps above all, busy staff with large case loads had little time to inquire or provide information about clients, even if that information might increase the efficiency of service delivery and the effectiveness of outcomes. In addition to legitimate restrictions that affected the sharing of client data, myths and expectations had emerged that reinforced the information barriers among programs and strengthened the containers within which clients were assessed and services were provided. From the CDE perspective, data privacy functioned as an effective container to reinforce separation of one program from another. To shift this structure, we initiated a variety of activities.

In written and spoken communication, we began to refer to the issue as one of “data sharing” rather than “data privacy.” This shifted the focus from the container to the exchange dynamics, expecting that this would open new opportunities for action.

We used our involvement in state agency conversations to initiate a state-wide conversation about barriers to and benefits of sharing client data to improve integration of services and client outcomes.

With the help of senior leadership, we defined a county-wide project to explore opportunities to share data more effectively. This shifted the dynamics for decision making out of the traditional departmental containers and into the larger and more flexible context of county-wide needs. A

cross-functional team was selected to explore issues and opportunities for data sharing across the county departments and programs.

The team decided to sponsor a large-group event to explore the “myths and realities of data sharing.” This formulation allowed the group to focus on a critical difference between historical assumptions about data privacy and real concerns for the safety and privacy of clients.

The large-group event brought together approximately 100 staff members from across the county. Within this short-term, artificial container, the group could focus on significant differences and exchange their concerns and expectations for ways in which data sharing might support the integration of services to improve client outcomes.

Representatives from each of the major stakeholder groups were invited to attend, and many of them were invited to make formal presentations. Legal Aid attorneys represented clients who have valid concerns for their privacy and want control over their personal information. Computer experts spoke about innovative methods for controlling access to data elements according to user identification and security clearance. Managers of major programs spoke about their department-specific policies and procedures regarding the uses of client data. The project team presented a skit to demonstrate how data sharing would improve service to customers and efficiency of staff.

As a result of the meeting, the group recommended a county-wide data sharing policy for ratification by the County Board. They also chartered subcommittees to investigate client permission forms, an integrated computer system, policies and procedures, training, and long-term evaluation process to move a data sharing initiative forward.

Over the next year, a permanent office of data sharing was instituted, new department-wide policy and procedures were developed and implemented, a shared computer system for collecting and reporting client data was developed, and all staff were trained in the importance of and process for sharing client data to improve outcomes.

Of course this transformation was neither fast nor easy. Many committed staff members and leaders had to support the initiative to make it a reality, but they could not have aligned their efforts unless new containers (e.g., project team, large group meeting, subcommittees,

stakeholder groups) had not been engaged in effective exchanges (e.g., policy statement, expert presentations, one-to-one discussion of concerns) with regard to a transformed set of significant differences (e.g., from program to county-wide concerns, from data privacy to data sharing, from traditional process to effective results for clients).

Today, after the initial pattern for data sharing is reasonably well established across the county, the Data Sharing Office is responding to a new wave of demands. Management has realized that their tracking system provides excellent data to support decisions about system-wide resource allocation and program performance, so their system will be integrated with a larger business information system currently under development. They have also established a cross-functional task force to explore ways to enrich the interaction among service providers to enhance client service and long-term outcomes.

Conclusion

The study moved HSPHD forward and provides many powerful insights into how human systems dynamics affect organizational change and integration of services.

Lessons Learned

Throughout this project, our theoretical and practical understandings emerged, as they will continue to develop over time. As we reflect, we can make the following observations.

- When the team includes members from both inside and outside of the organization, the intervention can include deep organizational intelligence and innovative perspectives.
- A single, coherent and pre-designed intervention is not necessary to accomplish organizational transformation.
- Leadership in the transformation process is critical, not in terms of power to implement, but in terms of continuity and consistency of message, decision making, and direction.
- Serendipity and simultaneity are critical to the dynamics of change. The people and their systems need to be prepared to take advantage of opportunities whenever and wherever they arise.

- Changes at one level have direct impact on others because the containers at one are differences at the other, and differences establish potential for action.
- The process of transformation is messy—happening at different rates at different levels and parts of the organization.
- Hysteresis—the tendency of a system to oscillate between a new pattern and an old one—is a fact of life in organizational change as we experience it.
- Each change in system dynamics provides a more robust foundation for the next cycle of change.

Continuing Questions

We continue to articulate questions that can move our work forward into the future and to generalize our findings to the work in other contexts. Some of our current questions include:

- What are the costs and benefits of making the theory and practice of the CAS intervention explicit for clients and participants?
- How might this process have progressed faster?
- What is the relative power for effective transformation of focusing on differences within a preferred future state rather than differences between the current and future states?
- What difference will it make to work across jurisdictional boundaries rather than just between departmental lines within a single institution?

Complex adaptive systems can be a “theoretical concept like evolution or gravity.” When we use models, such as the CDE, to focus on the relationships and implications of relationships in complex adaptive systems, we move from simple description of complex dynamics into explanations that lead to action.

This paper has presented a case study in which the CDE Model was used to influence the cross-departmental and inter-jurisdictional transformation in a large urban county in the Midwestern United States. Though the specifics are unique to one place and time, we believe that similar principles can be used to influence the emerging dynamics in inter-jurisdictional relationships across levels of scale.

Acknowledgements: The authors would like to express their appreciation to the staff and leadership of Hennepin County who continue to learn and grow as they support the continuing evolution of their clients and their organization and themselves.

References

Barrett, Stanley R.
1996 *Anthropology: A Student's Guide to Theory and Method*. Toronto: University of Toronto Press.

Barth Fredrik.
1966 *Models of Social Organization*. London, Royal Anthropological Institute, Occasional Paper No. 23.

Center for Health Policy and Community Services Integration
2001 Final Report CSG Strategic Plan: January 1998 – September 2000.

Eoyang, Glenda
2001 *Conditions for Self-Organization in Human Systems*. Ph.D. Dissertation, Union Institute, Cincinnati, Ohio.

Eoyang, Glenda and Royce Holladay
2005 *Hennepin County Human Services and Public Health Department: Redesign Assessment Summary Report*.

Lansing, J. Stephen
2003 "Complex Adaptive Systems," *Annual Review of Anthropology*. 32:183-204.

Macy, Michael W. And Robert Willer
2002 "From Factors to Actors: Computational Sociology and Agent-Based Modeling," *Annual Review of Sociology*. 28:143-66.

Olson, Edwin E. and Glenda Eyoang
2001 *Facilitating Organization Change: Lessons From Complexity*. San Francisco: Jossey-Bass/Pfeiffer.

Washburn, Dorothy K. and Donald W. Crowe
1988 *Symmetries of Culture: Theory and Practice of Plane Pattern Analysis*. Seattle: University of Washington Press.

Yellowthunder, Lois and Victor Ward
2003 "The Neighborhood Project," *Voices From the Field: An Introduction to Human Systems Dynamics*. Minneapolis: Human Systems Dynamics Institute.