

Working Paper

***Reinventing the Health Care System from Within:
The Case of a Regional Physician Network in Germany***

Katrin Kaeufer, Research Affiliate, MIT Sloan School of Management
and Society for Organizational Learning
Claus Otto Scharmer, Lecturer, MIT Sloan School of Management;
Visiting Professor, Helsinki School of Economics
Ursula Versteegen, Research Director, Society for Organizational Learning,
Germany
#WPC0006

April 2003

Working Paper edited by: Susan C. Cass

For information regarding the MIT Workplace Center or for additional copies of this Working Paper, reference #WPC0006, please email workplacecenter@mit.edu, call (617) 253-7996 or visit our website: web.mit.edu/workplacecenter

Table of Contents

Introduction	1
Context.....	2
Initiating the Process: The Story of ANR.....	2
Patient-Physician Dialogue Forum – An Intervention.....	5
A Second Intervention	10
Accomplishments and Lessons Learned.....	15

Copyright ©2003 Katrin Kaeufer, Claus Otto Scharmer and Ursula Versteegen. All rights reserved. This paper is for the reader's personal use only. This paper may not be quoted, reproduced, distributed, transmitted or retransmitted, performed, displayed, downloaded, or adapted in any medium for any purpose, including, without limitation, teaching purposes, without the authors' express written permission. Permission requests should be directed to kaeufer@mit.edu

Introduction

This working paper was produced from the transcript of an informal MIT Workplace Center seminar given by Katrin Kaeufer and Claus Otto Scharmer on February 6, 2003. Together with Dr. Versteegen, Drs. Kaeufer and Scharmer are conducting their postdoctoral research in the field of leadership. Dr. Scharmer is cofounder and lecturer of the Leadership Lab for Corporate Social Innovation at MIT. He also is a visiting professor at the Center for Innovation and Knowledge Research, Helsinki School of Economics, and a faculty member of the Fujitsu Global Knowledge Institute in Tokyo. He is a founding research member of the Society for Organizational Learning. Dr. Versteegen is research director of the Society for Organizational Learning in Germany. Dr. Kaeufer is a research affiliate at the MIT Sloan School and a founding research member of the Society for Organizational Learning, Cambridge.

The paper focuses on the work redesign of a network of physicians in Germany that Drs. Kaeufer, Scharmer and Versteegen have studied since 1997. The guiding question in their research is how to reinvent a regional health care system from within. In this paper they describe the context and the timeline of the case and two of the interventions they led. This work redesign is very much a work in progress, but at the end of this paper they describe their accomplishments thus far and areas for possible growth.

Context

Since 1997, we have worked with a regional network of physicians northwest of Frankfurt. This health care network is located in the Lahn-Dill region, a small community in a rural area near Frankfurt with approximately 300,000 inhabitants. During the 1990s numerous networks of physicians were founded in Germany, but most of them failed. The health care network in this region has, however, succeeded in making some significant improvements.

Germany has both private and public health care provided by 110,000 doctors in private practices and approximately 2,200 acute care hospitals. Health insurance is organized by 600 health insurance companies, and every German citizen has health insurance with access to any hospital or physician they choose. Sixty percent of health care costs are directly or indirectly controlled by the private physicians.

In helping the physicians and patients of the region to reshape their local health care delivery system, we used open-ended dialogue interviews and community action research (Senge and Scharmer, 2001) and facilitated meetings and strategy discussions. The methodological foundations of this health care intervention are based on the presencing approach to leading change (Scharmer 2003, forthcoming; Senge et al. forthcoming).

Initiating the Process – The Story of the ANR Network

In the fall of 1994, a clinic in Giessen conducted a survey to determine physicians' thoughts on the status of doctors and their prospects for their future. The survey provoked a parallel thought process in one physician who received it. This physician, Dr. Gert Schmidt, initiated a movement to change the system and today is still one of the movement's driving forces. In one interview Dr. Schmidt said:

It [the survey] made a lot of things clear to me. When you are putting in 60, 70, 80 hours a week, you are in a situation where you just can't pause; where you are constantly on the run and reacting, with no time just to reflect. About three months after

taking the survey, I gave the clinic a call and asked what results came out of the survey.

The clinic reported that the survey showed an “inner resignation” among the doctors surveyed, meaning that they were doing their jobs without any hope that things might change. Just in central Germany, near Frankfurt, approximately 60 percent of the physicians felt “inwardly resigned” to their jobs. Approximately 49 percent said they had at least once thought about suicide. The chief investigator of the study told Dr. Schmidt, “if the doctors only knew how sick they were.”

That day the physician left his office and ran into a patient who told him, “Doc, I never get to see you. You are so stressed. You don’t have enough time for me.” This frustrated Dr. Schmidt. When he arrived home, his feeling of frustration was compounded when his ten-year-old daughter opened the door and said, “Daddy, I don’t ever see you.” With both his family and his patients saying the same thing, he began to question his life style and the way his profession was practiced. He began wondering whether there might be a chance to change things by reinventing the health system from the bottom up and began talking to other physicians in the area. With their support, he decided to start a very concrete project: developing a new emergency health care delivery system in the region.

Out of this initiative emerged a regional network of physicians who began to reinvent the health care system in that region from the bottom up. Surprisingly, not just the work satisfaction of the physicians and the quality of the health care improved significantly, but this initiative also accomplished cost savings as high as factor 4 of the total costs for running the initiative.

The emergency system in Germany has three components: hospital emergency rooms, local physicians, and ambulance providers. Private doctors are required to be on call after office hours. They often coordinate after-hours coverage with one or two physicians in the same neighborhood. In addition, the emergency system has a number like 911 in the United States (110 in Germany) that connects patients to ambulances, and they have the option of driving themselves to an emergency room. Dr. Schmidt believed

that coordinating these three components on a regional basis would save money and time, help patients more, and make life easier for the doctors.

Today, as a result of the hard work of Dr. Schmidt and many other local physicians, the region has a new emergency system called ANR [Arzt-Not-Ruf, *physician emergency call*]. In addition to the traditional emergency number there is a new well-known short-cut number 19292 a patient can call to consult with a physician right away, after office hours, or on a weekend.

This crucial improvement was made after a research institute (Aqua, in Frankfurt) evaluated the incoming emergency calls in the region and determined that 70 percent of them were not real emergencies, but a need for a physician's advice -- for instance, parents of a child with a fever or an old person feeling alone and helpless. Before the second number was instituted, an ambulance would have responded to all such calls. With the new system in place, these cases are covered by a physician on the phone or by a nearby local physician who is sent to see the patient by the physician who answers the 19292 call.

Timetable of Events Leading Up to Implementation of ANR

1995	The idea is born
1996	Building a regional network of physicians
1997	First formal meetings held with insurance companies
1998	Founding of a nonprofit organization by 75 physicians; start of negotiations with insurance companies
1999	Dialogue study with 100 patients and 30 physicians resulting in the "Physician-Patient Dialogue Forum" (Intervention One); negotiations continue
2000	Contract is signed by all parties; emergency services system begins operating
2001-02	Building the regional health care system continues: quarterly regional strategy meetings of senior leaders and practitioners across sectors (Intervention Two)

In 1996, after a year of internal discussion, the physicians began to include potential partners in the region such as ambulance services, hospitals, the fire department, and politicians. As the timeline above shows, in 1997 they began meeting with insurance companies, whose financial support is essential for the system to work. In 1998 the network founded a non-profit organization to be the formal negotiation partner for the insurance companies. Despite what looks like progress on the timeline, frustration was high because the negotiations did not move along quickly enough. Although everyone

agreed that the proposed changes in the emergency system would improve health care in the region, getting all the necessary partners on board was a challenge. The most challenging piece was implementing the new emergency system across institutional boundaries and working within budget constraints.

In working with this network of reformers, we learned that change would require the inclusion of all key players. When we began, there were no platforms from which to organize these cross-institutional or cross-sector conversations. At first the network core group used a very institutional approach, inviting the head and the official representative of all of the organizations to meetings; but that approach did not yield much. It turned out to be much more effective to organize around specific issues and to invite the practitioners (people who dealt directly with those issues and who had decision-making power). When these practitioners were brought together they quickly understood the problems and were able to envision and implement solutions.

Patient-Physician Dialogue Forum – An Intervention

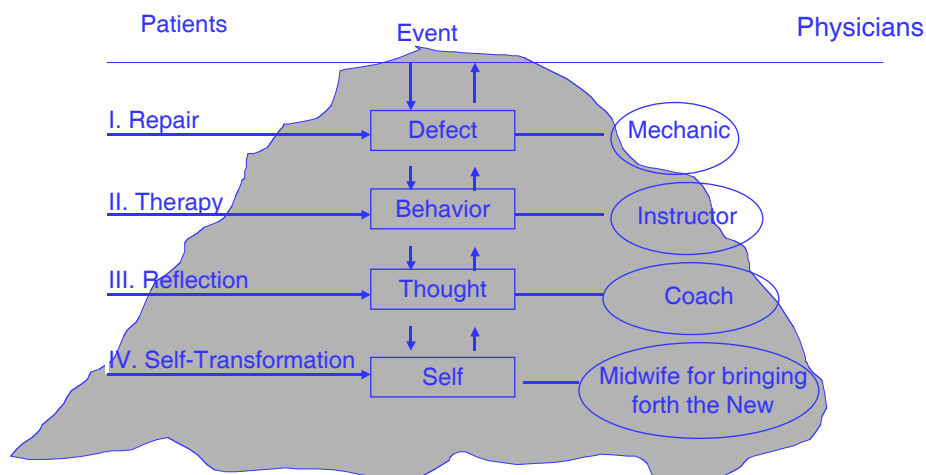
From the beginning, it was understood that the emergency system was just the first step in a much broader goal: to reinvent the health care system on a regional level. In 1999, when the negotiations between the network and the insurance companies stalled, we met with the core team and together developed the idea for an intervention, a patient-physician dialogue forum. The purpose of this intervention was to stay connected to the overall objective, improving the health care system, and not become passive observers in a negotiation process that was dominated by the insurance companies.

The method we used is based on dialogue and action research, and focuses on helping the system to see itself. We wanted to understand how physicians and patients would describe the different qualities of their relationship. Along with three graduate students from a German business school we conducted

... the core axis for reinventing the health system is the patient – physician relationship.

100 dialogue interviews with patients and with 30 of their physicians. We tried to uncover the different qualities of the patient-physician relationship, based on the assumption that the core axis for reinventing the health system is the patient-physician relationship. We then invited everybody to a feedback session, which approximately 100 people attended. We told them that from the interviews had revealed four different levels of patient-physician relationship. We use an iceberg diagram to describe this relationship.

Iceberg Diagram: Levels or Types of Patient-Physician Relationships



© 1999 C.O. Scharmer

- I. **Repair:** At Level 1, the physician is in the role of a mechanic who fixes a defect (an illness, a broken bone, etc.). The patient accepts the “fix” but is otherwise disconnected from her health issue.

My health issue is that I have a broken part, a defect. The relationship to my physician, then, is that he is a mechanic. He fixes that broken part.

- II. **Therapy:** At Level II the physician-patient relationship is one of teacher and student: the physician becomes an instructor and the patient follows a therapy

Medical problems can come from behavior. When I have a heart attack, it comes from the way I behave. I want my physician to tell me, "Eat more of this, less of this. Work out a little bit."

- III. **Reflection:** Certain health issues cannot be successfully addressed on the behavioral dimension because they are affected by the way we think, our mental model, and our assumptions about what is and is not important in life. At Level III, when this deeper level is addressed, the role of the physician becomes that of a coach. A patient describes this as follows:

One becomes sick in order to think. When you say you don't have the time, time will be forced on you by making you sick. When you don't consider life as a present, then you become sick.

- IV. **Self-Transformation:** At Level IV the relationship goes beyond and beneath a reflective relationship on key assumptions, to a level of self-transformation, or becoming more fully who one is. A patient described this level as follows:

I have been someone who never got sick. And then, all of a sudden, I had cancer. I really used to be ... everywhere. I worked hard. I was a member of various committees, and I just neglected the fact that I was sick...I did not want it [cancer] to be in me. I told myself "Just ignore it." I went back to work full-time ...[but] two years later, I broke down. I had to stop working. After surgery, I went to therapy and I learned to talk about my disease. I only learned at the age of 58, to say "no." I didn't even realize that I lost my identity on the way down, and now I'm not concerned about my future anymore. Today is important to me now.

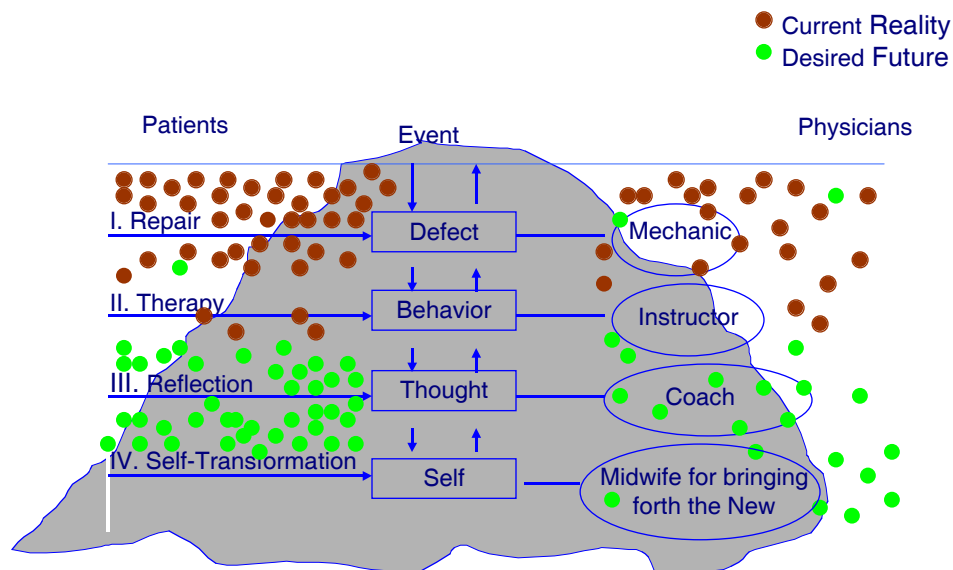
There is no such thing as a good level or a bad level, only appropriate and inappropriate. All of the levels described in the iceberg diagram are necessary. Routine procedures and the completion of medical forms are activities that

There is no such thing as a good level or a bad level, only appropriate and inappropriate.

operate at Levels I and II. In the case of an emergency or necessary surgery, a reflective process is neither desirable nor necessary. The new emergency response system is mainly about Levels I and II, and perfecting competence on this means to deliver exactly and quickly on whatever the emergency situation is. However, responding to people's concerns in urgent circumstances is also about psychology -- for example, about making elderly people feel safe -- and therefore it includes an element of Levels III and IV. Any new infrastructure must allow all levels to be present as needed.

In the medical profession, this restructuring and paying attention to each level of interaction is a different way of thinking about time and resources. By paying attention to the appropriate level of care, you end up saving money and time. It is a huge waste of resources to address Level I and II issues with Level III and IV solutions. Thus, in the emergency system redesign, life is easier for the physicians; they take fewer calls and everything is better organized. The patients are happier, too, because they receive better care and know they have access to a physician for advice at any time.

We asked the patients and physicians to discuss in small groups the different levels of patient-physician interaction we introduced and how the comments of others did or did not relate to their own experiences. We asked them to label their own experiences with a red dot (current reality) and to show where they would like the main focus in the future with a green dot (desired future).



© 1999 C.O. Scharmer

Both the patients and the physicians arrived at the same assessment: the current reality was at Levels I and II, and that what they wanted to create, and the way they wanted to relate to one another, was at Levels III and IV. We reminded them then, “You are the system,” and asked, “Why do you enact a system, or properties of a system, that nobody wants?”

During the short silence that followed, we could sense people’s perception shifting, from the belief that the system is something external and uncontrollable, toward a realization that the system is something that they enact. The way patients and physicians interact within the system drives how it behaves on a collective level. It was a significant turning point. Once a shift like this happens, it becomes a source of energy that drives change processes later on. We were nearing the goal of this intervention: helping the system see itself.

We were nearing the goal of this intervention: helping the system see itself.

After that, the conversation took a much more reflective turn, and people freely shared their experiences and thoughts about what prevented them from operating

differently. After a while, the mayor of the town stood up and equated problems in the local administration with those of the physicians. He said:

All we do is focus all our resources on reacting, on operating on Level I and II, which is reacting against the issues of the past, and we are unable to structure politics in a way that we tap into the resources of Levels III and IV.

When he sat down, a woman stood up and said:

I am a teacher here in the town, and the key issue we have in our schools today is that we focus all our energy and resources on operating on Levels I and II, pouring dead bodies of knowledge into people that they can't use once they graduate. And we are unable to create learning environments of Levels III and IV, which help people to access and to tap into their own sources of knowledge creation. True learning means to light a flame, not to fill a barrel.

And when she sat down, a man stood up and said:

I am a farmer here, and the issue in farming today is that the whole model on which industrial farming is based is an input/output model, putting fertilizers and pesticides in and getting something out. It's kind of a mechanical model based on Level I and II type of thinking. We are unable to relate to the whole farming process, and relate to nature and farming in a way that involves these deeper levels, or that relates to nature and the earth as a living system with its cycles and diversity, and the eco-diversity it is part of.

Another turning point was when a female patient said, "I don't want the system to kill the best physicians we have." Although this may seem like a small comment, she was embodying a genuine caring attitude toward the physicians. The physicians, who perceived their patients as being demanding -- coming in with their insurance and credit cards and saying "Give me this, give me that" -- changed after hearing this patient and began to open up.

The remainder of the day focused on forming action groups that could take the system from Levels I and II to Levels III and IV. Some of the groups still exist, such as a joint initiative of patients and physicians to redesign regional health care and a patient-

founded non-profit organization to represent their needs. Another initiative is developing a connection point and improved relationships between hospitals and outside physicians. This group has developed a standard format for transferring information between hospitals and outside physicians and has founded an office for use by the outside physicians at the largest hospital in the region; it is jointly run by the clinic and ambulatory physicians and works to improve the critical interface between the two.

A Second Intervention

In 2000, a year after this patient-physician dialogue forum, the final contracts were signed and the new emergency system began to operate. In the fall of 2001, after one year of operation, we were invited back to the region to do a qualitative analysis of how the system works. We began in the fall of '01 and the spring of '02 with dialogue interviews. In these interviews we tried to listen very, very closely so people would open up and talk about their deepest concerns. Then, after all the comments were transcribed, we focused on not interpreting the information too early, but on understanding what had been said. We continue to do this by conducting interviews and then re-presenting some of the interviewees' most substantive observations to them for further discussion.

From that process a core group emerged, including physicians, insurance companies, patients, and nurses' representatives. In its first quarterly meeting, we tried to get a common understanding of this core group's position. We presented the following summary of what we had heard in our interviews. We differentiated between the patients, the doctors, and the insurance companies.

We asked each group, "Where do you see the problem today?" And then we asked why (see table below).

When we asked the patients how we could change the situation, they described a need to go from reaction to encounter. For physicians the therapy was to redefine their work. A quote from one doctor sums it up, "We have to come back to the original inherent medical thinking." The insurance company's therapy is to provide quality and efficiency for everyone.

	Patient	Doctor	Insurance system
Problem	<i>"I'm a piece of wood."</i>	<i>"I'm here on a hamster wheel and fighting single-handedly."</i>	<i>"Costs are getting out of control"</i>
Diagnosis	<i>"It's a file cabinet system" They have a system which they want to stick people into. And if you have some other problem, or the medicine doesn't work, the system still presses you into these drawers ... Here's where you go in, and tough luck if you don't fit."</i>	<i>"There is pressure from above, from politicians and insurance companies, and I'm eaten up from below, by the patients." "In order to liberate ourselves intellectually, we sometimes proceed such that up front we write the diagnosis, the case history, get our facts and figures written down, and then we have time to focus on the patient. We first satisfy the system. Once we've done our paperwork duties, then we can start being doctors."</i>	<i>"There is a flood of practical constraints, demographic developments, an illness panorama, new technologies..."</i>
Therapy	<i>From reaction to encounter: "He was a human being. In that moment he was at my side no longer as a doctor, but as a friend..."</i>	<i>Redefining the physicians' work: "We have to come back to original, inherent medical thinking..."</i>	<i>Quality and efficiency for everyone: "We want to ensure quality for our customers." "Whether a person has money or not, everyone receives care."</i>

Case Example: Moving Away from Level I

We asked to hear examples of circumstances in which the system was working well, and the group provided a list of people for us to interview. One interview was with a woman who ran an office with a colleague where they helped patients who felt lost in the system. They helped them complete paperwork, interact with physicians, and with any other problems that arose. Here is her story:

An elderly woman patient was here this morning asking for a patient living will, but I told her we don't just hand this form out because it involves a far-reaching decision. The woman rolled her eyes and said she would just go to the courthouse or town hall to get the form. She said, "I just want to sign my name and be done with it." I told her the form

requires serious consideration. You might write on the form, “I don’t want any life prolonging measures when I am terminally ill” which might be interpreted, “I don’t want any infusions” which could mean that you would die miserably of thirst. Or this statement could also mean you would not be fed artificially, which would be legitimate while dying.

These are the kinds of examples I give patients, and when I’ve managed to get their attention they are all ears. They then understand the magnitude of what they are signing. But we have to fight the attitude of “I just want to fill out the form” and that is quite difficult. The local courthouse and the town hall have stopped handing out these forms, because they have realized the importance of the issue.

In this case, when the woman comes in and says “I want the form” she is acting on Level I. She wants the problem fixed. But the administrator refuses to take on the role of a mechanic. Her role is that of instructor. During their interaction she leads the elderly woman beyond the role of a patient who is following instructions or advice. The administrator initiates a thinking process, a process of reflection that takes their relationship toward Level III. By the time the elderly woman leaves the office, she has begun to understand the importance of her decision. She can now reflect on her situation, thinking about what she really wants and how to fill out this important form. We call this place an *Aufwachort* or “place for awakening.” When the elderly woman met the administrator, who took on an advisory role, the elderly woman “woke up.” People need these places where they can see and reflect on their own behavior.

This office administrator continued by outlining the reasons why she felt personally committed to this issue.

I had to fulfill the role of guardian for my mother. She had had a brain hemorrhage and was on a respirator. I remember watching three doctors, standing at her bedside...

This really impressed me a lot, as my mother lay there. She couldn't remember anything, even though she was still aware. She was like a babbling child, and she kept asking the same questions. At the beginning the neurologist and the senior physician stood there and talked to each other about her, over her head. But when I showed them my mother's living will, they read it and realized what it meant and my mother then assumed a personality for them. Although my mother still wasn't clear about what was going on, they respected her because she had appointed someone as her guardian and because she had given this situation so much thought. All of a sudden she was there as a person and I was greeted with a huge amount of respect. And there was relief on the doctors' side.

This really impressed me – this about-face within 15 minutes until the form had been read, the senior physician joining in, and the respect that they now showed her.

Here we see the interaction moving underneath the level of reflection. The following table outlines the difference between the situation before and after the physicians became aware of the woman's wishes.

Before	After
Mother is an object.	Mother is an active participant in the decision making process.
Physicians talk over her head.	Physicians talk with mother.
Physicians feel helpless.	Physicians are relieved and resume their ability to act.

After the form indicating the patient's wishes had been read, the relationship between the physicians and the patient changed crucially: it now included Level IV, the patient herself.

We are not arguing that any one of the levels is more relevant or more important than the others, only that different types of problems require different organizing principles. And we believe that in its current form our health system follows principles located primarily on Levels I and II of the patient-physician relationship (the physician as mechanic or instructor) and that we do not know a lot about the organizing principles for Levels III and IV.

In our interviews we found that health and taking responsibility for yourself are closely tied. Our health system is organized in a way that patients are not sufficiently supported to become responsible for themselves. Instead it produces dependencies. What we need are places and infrastructures for reflection, as well as *Aufwachorte*, places to wake up and processes for learning how. As one physician put it, “We have to learn to provide help only when the [patient] cannot do it on her own.” Improving the relationship between patients and physicians is a critical starting point in reinventing the health care system, as well as a mean for assessment.

Accomplishments and Lessons Learned

A striking accomplishment of the redesign in the emergency health care delivery system is that patient complaints from this region have dropped to virtually zero. The head of the supervisory board of the region, the person in charge of quality control said,

In stark contrast to other regions, where we have many, many complaints and lawsuits and where I have to go to a lot of crisis meetings that deal with these issues, I don't have any of these meetings anymore in this region of the health care initiative.

Overall, the new system helps to reduce costs, there are fewer expensive ambulance trips, and emergency room use went down, whereas at the same time in neighboring regions, the figures for these three went up. According to a recent study the cost savings accomplished are as The new network and connections have caused physicians to reflect in new ways on how they deal with patients, as well as on the level and types of the patient-physician relationship.

Communications have improved on many levels. Physicians located on the same street who had not spoken to each other for 20 years sat in the same meetings. Formerly, when a patient left the hospital and returned to the care of his or her own private physician after surgery, the hospital and private physician did not communicate about the patient's care. Now, these two physicians know each other and keep each other informed about the patients they have in common. Other types of communication have become more direct, too. One physician said,

We experience the difference when we visit our colleagues in adjacent regions. When we are discussing a new program or initiative, and we consider all the big players, we used to worry what each would think or do. We no longer pose these questions. We either go straight to these people and ask them directly, or we simply don't bother about it at all. We focus our time on where we can make a difference.

Another positive change is in the quality of the patient-physician relationship. Before the new emergency initiative was set up, there were two camps -- the physicians and the patients. There were no ways for the two groups to understand or work with each other. Through these forums, there is a place for both sides to clarify their positions and

feelings. For instance one physician said, “*My relationship to patients has become more like a partnership, more a thinking together. I am more able to elicit and to reformulate the thinking of the patients in order to help them to see what they think, and to become aware of what they really want.*”

Probably the most subtle change is in how the self connects to the whole and the system, and what impact the individual can have on the whole and the system. When we interviewed the founder of the initiative about its outcomes, he described the accomplishments we described above. He accounted for the successes as follows:

The experience of shaping something gives you power. You also learn to see the meaning of your work in the context of the whole region, and that, too, is empowering. Through better knowledge about how the system in the region works, and through getting to know a lot of people, you end up having different access to making things work. Today, we are in a different position to make things work because we are seeing the whole more clearly, and because the whole network of personal communication relationships flows more smoothly.

Another physician referred to the new potential to develop ideas and projects together and break out of isolation: “In my case, I have rediscovered the joy of work. In spite of work overload, I’m willing to pick up extra work in our initiative. Others say this, too.” In a similar vein, a physician located in a more rural part of this region said, “When I drive through our region at night, I no longer have the feeling I’m alone. I am in the woods at 3:00 a.m., driving from one place to another, but I know I’m not alone.”

These subtle but important changes reflect changes in the relationship of the self to the system. Physicians now work collectively – getting projects done that were not possible before. People are relating to one another differently and are re-linking with their own source of energy. The new system is becoming less reactive and more enactive and enabling. Physicians are rediscovering the joy and satisfaction of their work, and in our

We know how to name the problem, we have languages of competencies, and that is a big first step.

interviews we have also seen hints that they are rediscovering the joys of family life, too, but we have not followed up on this to date.

This is where we are today, in early 2003. We have gone well beyond restructuring the emergency system. We have begun to change relationships. We are discussing the kinds of infrastructures needed for these different levels, and how to make sure that they are present. We know how to name the problem, we have languages of competencies, and that is a big first step. This is a work in progress.

References

- Fletcher, J., and K. Kaeufer. 2003. "Shared Leadership. Paradox and Possibility." In Craig L. Pearce and Jay A. Conger, eds., *Shared Leadership: Reframing the Hows and Whys of Leadership*, pp. 21-47. Thousand Oaks, Calif.: Sage Publications.
- Scharmer, C. O. 2003. "The Blind Spot of Leadership: Presencing as a Social Technology of Freedom." (Introduction to a forthcoming book with the same title). www.ottoscharmer.com
- Senge, P., and C. O. Scharmer. 2001. "Community Action Research." In Peter Reason and Hilary Bradbury, eds., *Handbook of Action Research*, pp. 238-249. Thousand Oaks, Calif.: Sage Publications.
- Senge, P., C. O. Scharmer, J. Jaworski, and B. S. Flowers. Forthcoming. "Presence: Human Purpose, and the Field of the Future" (working title).
- Versteegen, U.; C.O. Scharmer, and K. Kaeufer. 2001. "Praxis Pentagon of Organizational Learning." In *Reflections*. Vol. 2, 3 pp. 36-44.