

THE HUMAN DEVELOPMENT NETWORK:

SERVING DISADVANTAGED COMMUNITIES

IN THE INFORMATION AGE

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Author's Note

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This paper was written in late 1982 as an independent study project while I was a graduate student in the Telecommunications department at Michigan State University.

Readers are forewarned that much of the paper's content—especially discussion of particular technologies—is outdated. To put this in perspective, consider that it was written on a typewriter, when few college students (and even faculty) owned a personal computer, and roughly a dozen years before Netscape's introduction of the first commercial web browser. The paper's pre-Internet roots notwithstanding, I believe some of the core concepts and strategies it considers remain relevant today.

Unfortunately, most of the problems discussed in the paper remain with us 27 years later, in some cases in even more severe and seemingly intractable forms than existed when it was written, roughly halfway through Ronald Reagan's first term as U.S. president.

The good news is that today's technology is far more capable and less expensive than the options existing in 1983. Another encouraging sign is that Federal policymakers are focusing increased attention and financial resources in support of strategies that employ information and communication technologies (ICT) to address the serious shortcomings in our healthcare and education systems and our economy and society as a whole.

In light of this renewed interest by policymakers in finding effective ICT- and broadband-enabled solutions, the paper is being republished with this prefatory acknowledgement of its time-related limitations. My purpose in doing so, as it was in 1983, is to present policymakers with "new and practical alternatives to current policies and...stimulate them to think and act creatively and energetically in seeking effective solutions to today's pressing social problems."

Mitchell Shapiro
November 15, 2009

EXECUTIVE SUMMARY

This paper proposes the creation of a new institution designed to facilitate positive changes in disadvantaged communities through the combined use of:

- o state-of-the-art telecommunication and computer technology and;
- o a variety of progressive and "holistic" approaches to the provision of education, health care and other human services.

Because this institution--referred to here as the Human Development Network (HDN)--would use an integrated communication network to support delivery of a variety of social services in a holistic and integrated manner, it could be expected to generate powerful synergies, both at the institutional and individual level of effect.

Its potency would be further enhanced by its relative freedom from the bureaucratic inertia and obstacles that limit the ability of existing institutions to realize the potential telecommunication and computer technologies have to support individual and community development.

Specifically, HDN is designed to address the following mutually-reinforcing social problems:

1. Insufficient and inequitable access to effective health care and health education.
2. Insufficient and inequitable access to effective education.
3. Chronically high unemployment, particularly its structural element.
4. Continued and often growing inequalities in the distribution of economic and political power and

access to information and the media of communication.

5. A need for greater emotional and spiritual development to accompany today's accelerating technological development.

HDN is foreseen by the author to evolve through several phases of growth into a nationwide network. The first step would be creation of a pilot Human Development Center (HDC) which, in addition to serving the needs of its local community, would provide a testing and training ground for the human and technical resources that could later be used to implement HDCs in other underserved urban and rural areas.

These HDCs would be linked together by a state-of-the-art multipurpose telecommunications network, which would also be tied into outside communication networks. These strong communication links would facilitate expansion of the process of synergistic development, both within HDN and in the broader society.

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INTRODUCTION

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- o a variety of progressive and "holistic" approaches to the provision of education, health care and other social services.

Because this institution--referred to here as the Human Development Network (HDN)--would use an integrated communication network to support holistic delivery of multiple social services, it could be expected to generate powerful synergies, both at the institutional and individual level of effect.

Specifically, HDN is designed to address the following mutually-reinforcing social problems:

1. Insufficient and inequitable access to effective health care and health education.
2. Insufficient and inequitable access to effective education.
3. High unemployment, particularly its structural element.
4. Continued and often growing inequalities in the distribution of economic and political power and access to information and the media of communication.
5. A need for greater emotional and spiritual development to accompany today's very rapid technological development.

HDN is foreseen by the author to evolve through several phases of growth into a nationwide network. The first two steps in this evolution would be the planning and the implementation of a pilot (or

pilots) Human Development Center project. This pilot Center would be designed to serve the needs of the community where it is located as well as the following functions:

1. To engage in research related to the human, technological and financial factors in the organization, design and management of innovative systems which can alleviate the problems listed above.
2. To provide a core group of trained individuals with both the dedication and skills required to develop similar centers in other communities.
3. To gain expanded public support for and participation in the growth of the Human Development Network.

In later stages of HDN development, additional centers (HDCs) would be created in other communities. These would utilize the research findings, personnel and public support provided by the model HDC. The various HDCs would be connected via a multipurpose telecommunications network that would support exchange of information, ideas and inspiration and coordination of development efforts on multiple fronts.

Collectively, the HDCs would form the backbone of the Human Development Network, each serving as a focus of interaction with the broader community in the city and region in which it is located.

The author believes that, over time, principles, systems and practices that prove successful within HDN will spread into surrounding geographic areas and existing institutions that deal with education, health and social, economic and political development. At the same time, HDN would investigate--and, where appropriate, integrate--technical and human-factor developments generated outside the network.

FOUNDING PRINCIPLES

The fundamental principles underpinning the key components of the HDN design are listed below:

Health Care

1. The increased use of telecommunications and computer technology in the health care delivery system (often referred to as Telemedicine).
2. An emphasis on preventative, holistic health care.
3. The training and employment of community-based non-physician health care providers who can also serve as patient advocates and patient educators.
4. The development of self-help health education programs that make use of interactive multi-media technologies.
5. The organization and control of health care services by consumer-controlled Health Maintenance Organizations (HMOs).

Education

1. The use of telecommunication and computer technology for education and training.
2. A learner-centered approach to education which stresses "active" and "self-directed" learning.
3. The use of teacher assistants recruited from the local community and of "students teaching students".
4. Development of work/study and worker retraining programs run jointly by educators, local business leaders and community members and focusing on areas of increasing employment opportunities.
5. Providing individuals with tools with which to pursue spiritual and emotional growth within an environment that supports such growth without promoting any particular religious belief or practice.

Economic and Political Development

1. Use of integrated voice, video and data networks to support the following:
 - a. Growth of community-based economic, social and political institutions that can be linked together on a regional, state and nationwide basis.
 - b. Collection and dissemination of information regarding employment needs and opportunities and creation of skill and resource exchanges. This would be done on a local, state, regional and nationwide basis.
 - c. Community-based news reporting, including "positive" news (e.g., "what works."). This could be distributed locally and, when appropriate, on a broader scale.
2. Creation of incentives to help attract businesses and investors to areas surrounding HDCs. These would include:
 - a. Relatively low-cost use of high-quality communication and research facilities (e.g. full-service teleconferencing, computer-assisted training).
 - b. Tax incentives similar to those found in enterprise-zone proposals, accompanied by requirements for reinvestment in the local community and;
 - c. Access to the HDC community's pool of educated, healthy and motivated potential employees and entrepreneurs.

* * *

Because there is a strong synergy built into the HDN design, the reader is encouraged to perceive each element of that design, as it is discussed in this paper, within the context of the other elements and within the totality of the Human Development Network. Though each could be effective on its own if introduced separately into the existing human services delivery system, it is suggested that the total benefit derived from HDN will be substantially greater than the sum of benefits associated with individual innovations implemented on a standalone basis.

WHY CREATE A NEW INSTITUTION?

Much of the information and many of the ideas included in this report have been taken from existing research in the following areas: telemedicine, teleconferencing, computer networking and computer assisted instruction (CAI).

What makes HDN unique and, the author believes, particularly potent, is that it brings these varied technical innovations together within an integrated system and combines them with the principles and practice of: 1) holistic/preventative health; 2) learner-centered education; 3) individual and community empowerment; 4) economic democracy, and; 5) a restructuring of economic incentives.

No doubt some will question the need for and viability of a new organization aimed at simultaneously attacking such a wide array of problems. There are, however, several compelling advantages to such an integrated approach. These are discussed briefly below.

Cost Effective Application of Technology

The reality of tight budgetary constraints, coupled with the inherent multi-purpose potential of telecommunication and computer technology, present strong economic arguments for distribution of both capital and operating costs among multiple users.

Cost-effectiveness of such a shared-use network would likely be further enhanced if 1) sharing among multiple users were designed into the network from the start and 2) network integration was supported by some degree of administrative integration and sharing of physical facilities (meeting rooms, computers) among the network's different

"applications groups" (e.g., health care, education).

Because it could optimize "economies of scope" in the deployment of new technologies, the creation of HDN should be more cost-effective than a piecemeal deployment of the same technology within existing social service institutions.

Creating an Environment that Encourages Positive Change

Research on technological innovation suggests that an open-minded yet scientific approach is a key ingredient in the successful realization of a technology's constructive potential.

Existing social service institutions, however, tend to be severely restricted by administrative rules, budgetary commitments and bureaucratic inertia and in-fighting. These factors tend to create an environment that is neither open-minded nor scientific in its approach to innovation.

In fact, studies indicate that since technical innovation often threatens the status quo within such organizations, such innovations are often consciously or unconsciously resisted by powerful individuals and groups within these organizations who perceive, often rightly so, that their positions of power are threatened by it.¹

HDN, in contrast, would be relatively free of bureaucratic inertia and obstacles to innovation. As such, it should provide a more suitable environment for creative research, cross-fertilization of ideas among system users, and efficient coordination of research

¹Elton, Martin and Carey, John, Implementing Interactive Telecommunications Services: Final Report on Problems which Arise During Implementation of Field Trials and Demonstration Projects, (alternate Media Center, New York University) p. 72.

and operational programs, both within and between service sectors.

As new and successful programs were developed within HDCs, these local centers of human services R&D could use the powerful communication technology at their disposal to disseminate information about "what works" throughout HDN and throughout the broader local and national community.

As a relatively unencumbered institution committed to human development and connected by a nationwide network, HDN could facilitate a progressive wave of nationwide coalition-building, as its users developed a shared vision of human development and of methods to promote it. This shared vision, backed by a state-of-the-art communications network, could be a powerful tool in the social, economic, political and spiritual revitalization of disadvantaged communities.

A final set of arguments favoring the creation of HDN are based on the belief that human development is, by nature, a "holistic" process and that there is an inherent synergy between education, health and social, political and economic empowerment. If all of these human needs are simultaneously addressed, the benefits are far greater than the sum of the parts. If only one is addressed, its progress will suffer if there are chronic deficiencies in the others.

The author contends that the process of human development--like the process of technical innovation--is most effectively pursued in an open, flexible and empowering environment that helps to free individuals from old fears and habits rather than manipulating human weaknesses to tightly control behavior.

The latter is unfortunately the case in all too many institutions which today provide education, health care and social services, particularly those which serve the residents of disadvantaged communities.

To create an environment conducive to healthy and synergistic growth of individuals and communities, and to develop the momentum needed to overcome decades-old inertia and entrenched obstacles, a new institution is needed; an institution whose potency is amplified through appropriate use of advanced communication technology and--though linked to existing social service agencies--is free of the heavy baggage these institutions carry as they struggle to move forward in a world of accelerating change.

As our nation and its leaders have learned, the transition from the industrial age to the information age brings both pain and great promise. Now, more than ever, we need powerful new tools and dynamic institutions that can help realize the promise for those who have thus far borne a disproportionately large share of the pain.

* * *

Given the scope of the problems addressed and the novelty of the elements included in the HDN proposal, this paper is presented only as a suggestion of possibilities rather than as a definitive or detailed blueprint for specific action.

Nevertheless, it is hoped that it will present decision-makers with new and practical alternatives to current policies and will help stimulate them to think and act creatively and energetically in seeking effective solutions to today's pressing social problems.

TRANSFORMING

HEALTH CARE

IN

DISADVANTAGED COMMUNITIES

INTRODUCTION

Health care is today among the largest industries in the United States, accounting for roughly twelve percent of the total GNP. It is also an industry that has been plagued by consistently high levels of inflation. For example, the average annual rate of inflation in health care costs from 1966 to 1977 was almost 15%, and has remained at a double digit level of 11.5% in recent years even though the general rate of inflation in the economy has fallen to around 3%.²

The health care industry is predominantly organized around a fee-for-service price structure coupled with a third-party reimbursement system. This combination is widely criticized as being extremely inflationary and inefficient. The industry is also characterized by a strong emphasis on specialized, often fragmented and expensive treatment of disease and an almost total neglect of holistic and preventative health care practices and principles.

Critics of the health care industry claim that it is an industry which increasingly serves the needs of the medical/scientific community at the expense of the long term welfare of both the patient/consumers and taxpayers.

These critics point to the proliferation of expensive, technically advanced clinical procedures applied to isolated areas of treatment which, though fascinating to the medical research community and certainly helpful to particular patient populations, often

²Klaw, Spencer, The Great American Medicine Show: The Unhealthy State of U.S. Medical Care and What Can be Done About It, (N.Y.: Viking Press, 1973) p. 25.

contributes relatively little to the general level of health when weighed against the huge amounts of health care dollars which they consume.

Ironically, these expensive investments in advanced technology are in most cases accompanied by a rather unscientific approach to overall system planning. This shortcoming can be seen in the continued lack of and even strong resistance among physicians to the use of standardized patient record systems, along with extremely inefficient imbalances in the availability of health care among the various geographic, economic and cultural sectors of the country.

While these inefficiencies are, on one hand, associated with the preservation of the individuality and free choice of physicians, they are nonetheless also associated with considerable inconvenience, discomfort and potentially grave danger to many patients, particularly those in isolated rural areas and urban ghettos.

The proposal that follows is intended to help correct the imbalances and inefficiencies in the health care industry through the creation of a health care service within the Human Development Network based on the following elements:

1. The increased use of telecommunications and computer technology in the health care delivery system (often referred to as Telemedicine).
2. An emphasis on preventative, holistic health care.
3. The training and employment of community-based non-physician health care providers who can also serve as patient advocates and patient educators.
4. The development of self-help health education programs that make use of interactive multi-media technologies.

5. The organization and control of health care services by consumer-controlled Health Maintenance Organizations (HMOs).

While each of the innovations listed above might, on its own, result in an improved health care delivery system, it is the author's belief that, if combined within HDN, they could provide a total benefit far greater than the sum of the benefits associated with each component in isolation. The reader is therefore encouraged to perceive each element as it is discussed below as much as possible in the context of the others and within the totality of the Human Development Network rather than as separate innovations each introduced separately into the existing health care delivery system.

TELEMEDICINE

Telemedicine systems are medical care systems which use telecommunications technology to bring medical services to isolated, geographically dispersed or physically confined persons who are unable to reach a physician within a reasonable time and effort. The major components of any telemedicine system are:

1. A central source or sources of medical expertise and diagnostic and therapeutic technology.
2. One or more remote entry points into the system which may be located at a fixed site such as a community clinic or within a mobile health care unit. These entry points can be manned by either general practitioner physicians or non-physician health care workers such as nurse practitioners (NPs) or physician assistants (PAs).
3. A communication system linking remote entry points to the central medical resource center.

Since the first telemedicine projects in the mid-60s, there have been a variety of systems tested in a wide range of clinical applications. Although each system was unique in terms of technology, organizational structure and specific medical application, the process characteristic of telemedicine can be described in general terms as follows:

Patients make their first encounter with the system at the remote entry site. There the on-site health care worker (HCW) collects patient data, usually including a medical history, physical exam and perhaps laboratory tests. This data is then organized into a logical format, often using problem-oriented clinical protocols and standardized computer-based patient record systems.

Generally, this organized patient data is then interpreted by the on-site HCW--sometimes assisted by a computer--who then makes an initial decision as to further action. The basic options in terms of patient management at this point are:

1. To manage the patient's problem locally.
2. Refer the problem to the central medical consultant via the communications system. This referral is often known as "teleconsultation".
3. To transport the patient immediately to the central facility.

Teleconsultation generally includes one or more of the following:

1. Transmission of the preliminary medical data to the remote consultant.
2. Further data collection by the remote consultant regarding the patient's condition (e.g., electronic stethoscope, EKG).
3. Discussion by the on-site HCW and the remote consultant of the diagnosis and possible treatment of the patient's condition.
4. Formulation of a management decision by the consultant based upon the data, followed by the transmittal and discussion of that decision with the on-site provider.
5. Direct care of and instruction to the patient by the remote consultant via the telecommunication link.

The factors that will, to a large extent, determine the applicability of telemedicine and particular types of teleconsultation to a given patient population are as follows:

1. The attributes of the patient population - This includes the predominant types of medical problems, the barriers to health care, both geographic and cultural, and the willingness to participate in unconventional health care.
2. The qualities of the on-site Health Care Worker - This will include the level and type of training and the extent to which they play a clinical or non-clinical

role. (e.g., if the on-site HCW assumes responsibility for social services in addition to medical services their communication needs and relationship with both patient and remote consultant will be rather different from those in a purely medical encounter.)

3. The characteristics of the consultant and his role in the telemedicine system - This includes the objective factor of the doctor's area of expertise along with more subjective factors such as his willingness to take on a new and more specialized role which may involve a higher percentage of more complicated cases, less direct patient contact and responsibility for the remote supervision of the HCWs. Another very important characteristic of the remote consultant is the extent to which they are readily available, i.e., not already involved with existing patients on a full-time basis.
4. Types of data to be collected and transmitted - This is usually related to the types of medical problems handled by the system. Many problems can be managed on the basis of rather simple, straightforward data which can be easily obtained by a non-physician HCW. This is often the case for primary care, follow-up of chronic disease and pediatrics. Other health problems may require more sophisticated data collection and interpretation by the consultant. Examples of such problems includes neurological and orthopedic disorders, dermatological disease, psychiatric problems and X-ray interpretation.
5. The type and capacity of the telecommunication link - This can vary from voice-only circuits, to low- or high-speed data, freeze-frame video or facsimile transmission over standard phone lines, to one-or two-way black-and-white, color or high-definition television delivered via cable, satellite, etc.
6. The convenience of using the telecommunications link - How physically accessible and well integrated into the clinical environment is the telecommunication equipment?
7. The relationship and level of trust between the remote consultant and the on-site HCW.

In planning a telemedicine system all of the above factors must be considered together as each will have considerable impacts on the others. Beginning with the basic system objectives as determined by

the medical needs of the patient population, a system should aim towards maximum satisfaction of these needs at the lowest cost.

The primary cost factors involved in such a system are the telecommunication equipment and transmission costs and the salaries of the on-site health care workers and remote consultants.

Since each situation is unique, it is not possible here to specify the characteristics of an "optimal" telemedicine system. Nevertheless, there are a number of conclusions derived from prior telemedicine research which can be used as guidelines for system planning:

1. Sufficient time, money and medical and technical expertise should be devoted to system planning, evaluation and adjustment if a system is to be both technically and clinically effective and accepted by users.³
2. Participation in the planning process by all involved parties, including the community of patients, is an important element in successful system development.⁴
3. The level of skill and sophistication of the on-site HCW determines the extent to which medical data can be pre-processed, interpreted and acted upon at the remote site. It is therefore an important variable in predicting the required capacity of the communication link and the type, length, and frequency of teleconsultations with the remote consultant.⁵
4. The use of standardized computer-based patient record systems and clinical protocols as support for on-site HCWs can result in significant increases in productivity and ability to handle cases independently.⁶

³Elton, p. 86.

⁴Elton, p. 89.

⁵Willeman, Thomas R., "Technical Issues in the Design of Telemedicine Systems" in Telemedicine - Explorations in the Use of Telecommunications in Health Care, Bashshur, Rashid L. et al, ed. (C.C. Thomas, 1974) p. 133.

⁶Nocerino, Joseph T., "Perspectives on Interactive Health Services", in Bashshur, p. 163.

5. On-site health care providers who are members of the local community can be of significant value in overcoming cultural barriers to patient use of the health care system. Patients will tend to feel more relaxed, talk more honestly about their feelings and perceive the clinical setting and wider health care system as less threatening, alien and impersonal.⁷
6. Provider acceptance of telemedicine systems has been generally positive and tended to improve with usage. The major complaints have most often been related to technical problems and inconvenience of use.⁸
7. Patient attitudes have tended to shift towards the positive, particularly when initial perceptions were neutral, while a shift from negative to positive attitude was largely determined by the patient's attitudes towards the on-site providers. Patient acceptance was also strongly influenced by their feelings about the organization in which the system was situated.⁹

In general, telemedicine systems have proven themselves feasible and effective for a number of clinical applications. There is, however, a shortage of research findings regarding cost-effectiveness.

This is largely due to the fact that most projects were not continued long enough (often due to cutoffs of federal government funds) and were too limited in scope to provide realistic cost data.

Given the fact that most telemedicine research was done in the 1970s, early conclusions relative to cost-effectiveness would, in most cases, have to be adjusted to take into account the rapid decline in technology costs that has occurred since then. As a result, some applications judged cost-prohibitive in the 1970s may turn out to be cost-effective today.

⁷Elton, p. 90.

⁸Nocerino, p. 168.

⁹Rule, James B., "Patient Attitudes Towards Telediagnosis", in Bashshur, p. 220.

A NEW APPROACH TO HEALTH CARE

In addition to the use of telemedicine and computerized systems, the proposed health care delivery system would put greater emphasis on holistic and preventative treatment and on the education and increased responsibility of non-physician health care workers and the patient/consumers themselves.

Modern medicine, in its training and practice, largely ignores holistic and preventative elements of health care. It is basically a science of pathology geared to the diagnosis and symptomatic treatment of injury and disease, characterized by extreme specialization and focused on understanding specific diseases rather than overall health. It is also characterized by a doctor-patient relationship in which the doctor is viewed as active, powerful and extremely well informed, while the patient is viewed in varying degrees as passive, helpless and ignorant of what ails her. This is particularly true in the disadvantaged communities which are the prime target of this proposal.

Though research by the Office of Technology Assessment, the Congressional Budget Office and the Rand Corporation has shown that increased use of non-physician health care providers can cut costs significantly without sacrificing the quality of care, the AMA and doctors in general have tended to resist the use of these alternative care providers¹⁰

What is suggested here as a partial remedy to these problems is

¹⁰ "Health Care for Less," The Washington Monthly, (Jan./Feb. 1992).

the development of a well-trained and holistically-oriented corps of Community Health Care Workers (CHCWs). CHCWs would be recruited from within local communities, and would work to promote community health through preventative and holistic treatment while at the same time being able, when necessary, to access expert medical consultants and computerized diagnostic algorithms via a telemedicine system.

CHCWs would also be involved in planning and implementing patient education programs and serve as "patient advocates" who assist and, if necessary, represent patients in their dealings with the medical establishment and related bureaucracies.

The training program for the HCWs would include the following:

1. An overview of preventative and holistic health care that includes basic nutrition, hygiene, exercise, etc., and perhaps a specialization in a particular form of holistic therapy.
2. Paramedical training modeled on that provided to the Community Health Medics in the STARPAHC telemedicine project in Arizona and to the Army Corpsmen in Project AMOS (Automated Military Outpatient System) at DeWitt Army Hospital.¹¹
3. Training in crisis and health counseling and to serve as Patient Advocates who assist patients in dealings with medical and government bureaucracies. This advocacy element has been found to be an important factor in successful inner-city community health centers.¹²
4. Training in the use of the telemedicine equipment.
5. A certain number of HCWs would also be trained to serve as trainers of a second generation of HCWs for HDCs created in other communities.
6. Training as patient educators.

¹¹Nocerino, p. 164.

¹²Klaw, The Great American Medicine Show, p. 126.

This last element of HCW training points to the importance of patient education in the process of health maintenance.

One model for patient education is the Activated Patient Program began in 1974 by a group of physicians in Reston, VA. The program provides "self-help" health education using both live lessons and videotaped lessons available in classrooms or via cable television.

A second model for patient education is the Holistic health Center Project (WHCP), which was developed in Springfield, IL, in conjunction with the faculty of the University of Illinois. WHCP emphasizes the following elements of health care:

1. Health screening and health related educational programs.
2. Care in the early states of illness.
3. Improved coordination of medical, religious, counseling and social service professionals in the service of patient/consumers.
4. Attention to the relationship between stress and illness and to the emotional and spiritual factors in an individuals life.
5. Facilitating the "people helping people" process by using volunteer professionals, paraprofessionals and patient support groups.
6. Treatment and care of the whole person.

A very important element of the WHCP procedure is the Initial Health Planning Conference, which is attended by the patient, a nurse, a physician and a clergy-counselor.

The emphasis in these sessions is to teach the patient to focus on and take responsibility for her health. This is accomplished largely through discussion with the staff and completion of a personal health inventory.

In light of this initial evaluation, the individual is then presented with the range of educational and therapeutic programs offered by the Center. Throughout this process, a patient's honest response and ongoing feedback is encouraged and responded to.¹³

The final element of the health care system design to be discussed here concerns the control and financing of the system.

While management of the system will no doubt require experience and expertise, it is suggested that the hiring of staff and general oversight of operations be largely in the hands of a Board of Directors elected by the local community of users, and that the system be financed as much as possible by flat-rate membership fees (government subsidized if necessary) rather than on a fee-for-service basis. Such an arrangement already exists and is working well in a number of non-profit Health Maintenance Organizations (HMOs) throughout the country.¹⁴

While some physicians reject HMOs as "socialized medicine", studies have shown that, in general, the cost of health care in HMOs is lower than in the more typical fee-for-service third party reimbursement system.¹⁵ This difference appears to be due primarily to the replacement of incentives for doctors to recommend unnecessary hospitalization and surgery under the latter system with incentives to

¹³Tubesing, Donald A., et al, "The Holistic Health Center Project: "An Action-Research Model for Providing Preventative Whole-Person Health Care at the Primary Level", Medical Care, Vol. XV, No. 3, March, 1977, P. 221.

¹⁴Klaw, p. 104.

¹⁵Klaw, p. 112.

avoid unnecessary expenses under the former.

A criticism of HMOs related to these different incentives is that physicians working within an HMO-based system will be tempted to offer lower quality services to their patients in order to save money and show a profit to HMO investors.

While studies have shown that this does not seem to be the case, and that HMO provided health care is as good or better than its alternatives,¹⁶ it would even more surely not be the case in the non-profit consumer-controlled HMO system which is suggested here.

* * *

The above discussion has presented some models for various elements of an HDN health care service. Below is a brief description of how these elements might be combined into an integrated system.

Individuals entering the program would have an initial meeting with a community HCW and perhaps a nurse, physician and/or counselor. The meeting, modeled on WHCP's Initial Health Planning Conference, would introduce the individual to the HDC facility and its services.

Patients would then enroll in live and/or "electronic" health education programs similar to the Activated Patient Program and tailored to their specific needs, as revealed in the initial interview and examination. Patients would also have the option to take part in one or more health-support groups.

Future clinical encounters would be handled by HCWs backed up by

¹⁶Klaw, p. 116.

computer-based records and protocols and a telemedicine system capable of accessing a variety of medical specialists at major hospitals in the region and, where necessary, throughout the nation.

The above brief description, and the discussion which preceded it, are intended to serve only as general guidelines for the design of a community health care system to be located within an HDC. The specific design of a system for a particular community would require input from a range of technical and medical experts and community members along with a process of cooperative planning, evaluation and refinement, and would presumably include features unique to particular communities and regions.

It is suggested, nonetheless, that a carefully planned and implemented system based on the general principles outlined above could result in a significant increase in the quality, accessibility and cost-effectiveness of health care, particularly that which is provided to isolated and presently underserved communities.

**REVITALIZING
EDUCATION
IN
DISADVANTAGED COMMUNITIES**

INTRODUCTION

It is widely agreed that there is a great need for improvement in the educational system in the United States. Declining test scores, and the physical and spiritual decay and chaotic conditions in inner city schools are clear signs of this need.

In addition to the severe problems plaguing public education, our nation also must grapple with the steady waves of worker displacement that are rippling through an economy undergoing a fundamental shift from heavy industry and semi-automated manufacturing to service and information industries and more fully automated manufacturing.

The following discussion seeks 1) to identify a number of educational innovations which have, on their own, met with some success and 2) to suggest ways in which they may be combined into a new model for educational reform and a testing ground for further refinement of that model.

The basic principles upon which the proposed educational component of HDN is founded are:

1. The use of telecommunication and computer technology for education and training.
2. A learner-centered approach to education which stresses "active" and "self-directed" learning.
3. The use of teacher assistants recruited from the local community and of "students teaching students".
4. Development of work/study and worker retraining programs run jointly by educators, local business leaders and community members and focusing on areas of increasing employment opportunities.

5. Providing individuals with tools with which to pursue spiritual and emotional growth within an environment that supports such growth without promoting any particular religious belief or practice.

One of the first steps to be taken in the process of creating an HDN educational service would be to develop a working relationship among as many of the following groups as possible.

1. Local, regional and national educational institutions.
2. The members of the pilot HDC community.
3. The producers, distributors and evaluators of audio, video and computer-based educational software.
4. The manufacturers of communications hardware.
5. The business community, particularly those businesses in the area surrounding the pilot HDC community, or those who may be interested in locating there. (see the discussion of Enterprise Zones below).
6. All relevant local, state and federal agencies.

Though creation of a consensus among these groups will likely be a challenging task, it is assumed that their shared interest in effective education, coupled with strong leadership, could lead to fairly broad-based support for an HDC pilot project.

A Board of Directors representing the range of interested parties and including a strong representation from the local community would develop general strategies for program development.

One of the Board's first tasks would be sponsorship of research to determine the educational needs of the community and the most likely areas of growth in employment opportunities. Once these basic educational needs and goals had been established, specific experimental programs and course offerings would be decided upon.

Electronic Education Formats

While some of the programs decided upon by the Board of Directors will require very little or no use of communication technology, the limited teaching resources available in disadvantaged communities suggests that many classes will require some form of electronic enhancement.

The range of electronic educational formats is broad and growing and includes the following:

1. One-way video productions - The classic example and probably one of the best, most well researched and expensive of this type of programming is Sesame Street, which is produced by the Children's Television Workshop. Other examples include a wide range of Instructional Television (ITV) courses of varying qualities covering various subject matters.
2. Real-time interactive narrowband educational programs - A successful example of this format is the Extension Service program of the University of Wisconsin, which offers a wide range of classes using mainly 2-way audio and, in some cases, slow-scan video over phone lines.
3. Real-time, one way video, 2-way audio - This type of educational programming is often used for continuing professional education. It usually relies on satellite transmission of the video programming and phone lines for the return audio for audience response and discussion. The cost-effectiveness of this approach is expected to improve dramatically with the deployment of digital video compression technology in 1993-1995.
4. Computer Assisted Instruction - There is a growing number of companies now providing CAI software. Though some of it is considered by educators to be insufficiently tested and of low quality,¹⁷ some is considered excellent and has been proven to be highly effective. Some, in fact, hold out the promise of radical improvements in the basic process of education itself. (see the discussion of LOGO below)

¹⁷Carpenter, Polly, et al, Cable Television, Developing community Services, Rand Cable Television Series (Crane, Russak, 1974) p. 135.

5. Interactive video and multimedia programming - Though this field is still in its infancy, the combination of computers and CD-ROM or videodisc players holds great potential for individualized and engrossing education. Given its potential to accommodate a wide range of media formats and learner needs and styles, interactive multimedia is expected by many to develop into an extremely powerful educational technology.

LOGO, Computers and Inner-City Learning

A fascinating approach to the teaching of computer programming and to the application of computers in education has been developed by the LOGO research group in the Artificial Intelligence Lab at MIT.

Using the LOGO computer language and concepts derived from Jean Piaget's learning theories, the LOGO group's approach represents a fundamental departure from the more traditional techniques of computer assisted instruction, which Prof. Seymour Papert of the LOGO group staff refers to as "using computers to program children".¹⁸

According to Papert, the "LOGO environments" designed at MIT reverse this process--rather than "program" students, LOGO allows even pre-school children to learn how to program computers.

By a gradual and apparently very engaging process, children are taught the basics of programming while simultaneously being exposed to core concepts from science, mathematics and model-building.

By learning how to manipulate an electronic "turtle" via computer commands, children are introduced to programming in a manner they can relate to. They then proceed to learn programming skills at their own rate by applying themselves to largely self-directed and open-ended

¹⁸Papert, Seymour, Mindstorms: Children, Computers and Powerful Ideas, (Harvester Press, 1980)

lessons which rely heavily on the manipulation of computer graphics.

Through this reliance on graphics, the LOGO approach allows principles and relationships which are complex and cumbersome to deal with when presented as formulas and abstractions to be conveyed clearly, simply and concretely via graphic manipulation, so that even preschoolers can understand and apply them.

In LOGO environments, learning is an active and self-directed process with children able to retrace their programming steps, visually locating their "errors", or as is common, consulting with a classmate and discovering a totally new approach to the same problem.

Through these experiences they learn that solving a problem is a creative and often collaborative process of discovering and "debugging" a solution rather than simply memorizing a "correct" answer.

They also are encouraged to develop an appreciation and respect for individuality and diversity as they interact with their classmates and discover that there are often different yet equally valid approaches to particular problems and tasks.

In his book, The Inner City Child, Frank Riessman, Professor of Education at Queens College in New York City, having previously made the point that educational style should match a learner's cognitive style, goes on to describe the relative strengths of the cognitive learning style of many inner-city youths in the following terms:

1. A strong development of non-aural senses such as visual, tactile, kinesthetic.
2. Well developed forms of non-verbal communication; less word- and print-bound than other children.
3. Greater expression in informal, unstructured, spontaneous situations.

4. Positive response to learning in cooperative settings such as children-teaching-children.
5. Emphasis on learning from action and direct experience.¹⁹

Dr. Riesmman's and other findings (as well as the enormous popularity of video games) suggest that both LOGO-style learning and interactive multimedia could be particularly effective if used in the education of inner-city children. A careful exploration of this hypothesis would be a high-priority of an HDN educational service.

There have been a number of legislative proposals whose passage would help support of HDC's educational program.

One of these, known originally as the Apple Bill and passed by the House, is a proposal to grant tax write-offs in the amount of twice the manufacturing costs of computers to companies which donate computers to primary and secondary schools.²⁰

Given the wide range of electronic educational formats and the potentially wide range of educational needs within the HDC communities, it is suggested that the HDC be physically and administratively as flexible as possible. A fairly wide range of class sizes may need to be accommodated, including individual multimedia learning consoles.

For this reason it would be a good idea if both the learning spaces and the hardware be as modular in design as possible and that common technical standards be used throughout the Network.

¹⁹Riessman, Frank, the Inner City Child, (Harper Row, 1976) p. 94.

²⁰"Aetna Invests in Inner City", Wall Street Journal, December 20, 1982.

HDCs as Educational Software Test & Training Centers

Another aspect of HDC design concerns the need for more and better evaluation of educational software. It is widely acknowledged that this lack of research has resulted in frequent and often intense disappointment on the part of educators, along with the equally intense disappointment of school financial officers who must deal with the resulting underutilization of relatively expensive equipment.

To help solve this problem of insufficient testing, it would be a good idea if the design of the pilot HDC and perhaps other HDCs included a full range of feedback mechanisms for evaluation of educational programs and other HDC services.

These mechanisms might include computerized real-time response measurement along with more traditional tools such as written questionnaires, tests and in-person interviews.

The skilled manpower needed to design such an evaluation capability could probably be recruited at reasonable or no cost from a university in the city where the pilot HDC is located.

In addition to the above measures, cooperative arrangements should be pursued with existing organizations already working in the field of software evaluation. One example of such an effort is the joint venture of Consumer Union, a leading consumer research organization and the Educational Products Information Exchange (EPIE), an institution with fifteen years of experience in evaluating educational materials.²¹ These two organizations have joined forces

²¹"Joint Venture in Software Evaluation", New York Times, December 12, 1982.

to conduct and publicize evaluations of educational computer programs to help schools and parents make wise investments in CAI software. Such a joint effort and other like it might well be interested in a cooperative arrangement with an HDC which was equipped to serve as an educational research center.

It might also be desirable for HDN to have at least one center, perhaps the pilot center, which was equipped with a high-quality video production studio and remote production equipment. These could be used for HDN productions of educational and other material and for local training programs in video production. When not needed it could be rented to outside production groups.

In addition to the need for production and evaluation of educational software, there is the related problem of a lack of teachers who are sufficiently interested and trained in the effective use and integration of such software into the educational process.²²

Since these problems are so closely related, it seems wise to attack them simultaneously. This could be done by developing a training programming in software application for both certified teachers and locally-recruited teacher assistants.

Given its technical facilities and software evaluation capability, an HDN video facility would seem to be an excellent place to provide such teacher-training.

In light of the shortage of both of these types of programs relative to the need for training and evaluation, it is quite possible that HDN could, in time, become a leading force in the much-talked-

²²Carpenter, p. 142.

about but as yet barely-realized revolution in the technology of education.

In addition to the teacher training programs discussed above, HDN could undertake a number of other training programs which will directly contribute to the realization of its primary objectives. These would include the Community Health Care Worker (CHCW) training programs and the self-help health care programs discussed in the previous section of this paper.

Vocational training designed to counter the growing problem of structural unemployment would also be a top priority for HDN.

A successful model for such a program is the Academies Program, a cooperative venture of the Philadelphia school system and the Philadelphia business community. It is funded by a combination of school district and private money and its curriculum is planned and administered by a joint committee of private sector employees and school district personnel.

Its services include the provision of after-school and summertime employment for participating students and arrangements for "loans" of experienced employees to help coordinate the program and administer the training.

The curriculum focuses on areas in which Philadelphia continues to experience growing demand for labor such as information processing skills and health care delivery. The Academies Program targets high-risk youth and has been quite successful in achieving low drop-out rates, high rates of attendance and high rates of job placement of its

graduates.²³

In light of the success of the Academics program, and of the functions and facilities of the HDCs, it seems reasonable to assume that a similar program might meet with success in HDC communities.

Its curriculum might, for example, include information processing skills, multimedia production and electronic hardware maintenance. All of the above are considered to be future growth areas of employment and have the added benefit of teaching skills which will be required in developing and maintaining HDN systems and services.

For example, students could gain valuable on-the-job training while helping to produce HDN programming and maintain HDN equipment.

Such training, coupled with HDC production and networking capabilities, could have an added benefit. It could provide a powerful vehicle for the creative self-expression of inner-city residents who have historically been under-represented or misrepresented in the television medium. Given the accelerating expansion of mass communication channels, this might help redress these historic imbalances and distortions.

²³"Public-Private Vocational Training Success in Philly", New York Times, December 14, 1982.

Free Learning Exchanges

Another useful model for the development of educational services in an HDC community is provided by the informal educational networks known as "Learning Exchanges" or "Free Universities".

The basic elements of such programs are the belief that "anyone can teach and anyone can learn", a respect for the principle of "lifelong learning" and a leadership which encourages and coordinates a variety of informal, non-credit courses taught by local residents who possess particular skills or knowledge.

"Teachers" usually undergo brief orientations where they are informed about the system's basic rules and the educational techniques that have been successful in general and in their particular fields.

They are typically paid little or nothing beyond the pleasure of sharing what they know, do and love and, in some cases, the opportunity to offer more advanced training to learning-exchange graduates who seek it. The largest program expense in learning-exchanges is usually the printing of course catalogues and in some cases rental charges for classroom space.

Such a service--with its low budget, community orientation and "anyone can teach, anyone can learn" philosophy--seems well suited to be part of a multifaceted educational service provided by HDCs.

Although such programs have been limited to local classes, it is quite possible that--given sufficient demand and coordination--a similar approach could be applied to classes transmitted to multiple sites via the HDN telecommunication network using any of several different formats (e.g., one-way video, two-way audio).

Supporting Spiritual and Emotional Development

Before leaving our discussion of the educational sector of the Human Development Network, we will briefly consider the component of its design intended to deal directly with the spiritual and emotional aspect of human development.

While there is broad agreement that this aspect of development is a problem area in the nation's inner cities, there is less agreement on what are the best solutions.

As in other areas, it is proposed that HDN provide a testing ground for the evaluation of various approaches to revitalizing the emotional and spiritual life of inner cities.

These might include various approaches to counseling and therapy, as well as exposure to a variety of meditative and "centering" techniques. Establishment of a non-denominational and non-dogmatic program to support individually-chosen spiritual disciplines might also be explored in this area of educational reform.

The author suggests that this component of HDN could emerge as a key ingredient in the process of human development and in the maintenance of total health.

SUPPORTING
SOCIAL, ECONOMIC AND POLITICAL
DEVELOPMENT
IN
DISADVANTAGED COMMUNITIES

The third main function of an HDC, beyond the provision of health and educational services, would be to strengthen, mobilize and coordinate the social, economic and political resources within an HDC community in an efficient, democratic and equitable manner. Possible services under this general heading are:

1. Job placement and employment counseling (to be coordinated with the HDN educational services).
2. Skill and resource exchange.
3. For-sale and for-barter information exchange.
4. Commercial market information (e.g., comparative prices and product evaluations).
5. Computer-based consumer cooperatives offering bulk discount prices and service discounts.
6. Consumer-controlled financial services.
7. News reporting.
8. Relatively low-cost office and meeting space for community organizations, businesses, trade unions, associations, etc.
9. Multi-format teleconferencing services.

As the reader will note, most of these services involve some form of computer-based information exchange. Most of the hardware needed to set up such exchanges, which would use HDCs as local nodes, would already be deployed at each HDC for health and education functions.

Also needed would be 1) information management software that could support the various functions described above; 2) paid or volunteer staff to instruct, encourage and assist individuals in the use of the various services; 3) a sufficiently user-friendly input and output process; and 3) a mechanism for allocation of access and balancing of supply and demand.

One information management package that seems fairly well suited to the needs of HDN is the MIST software package developed by Peter and Trudy Johnson-Lens from Lake Oswego, Oregon. Referred to by its creators as "The Networker's Electronic Toolchest", MIST is a highly integrated, easy-to-use system that includes features for word processing, data base management and telecommunications.

MIST was designed specifically as a "tool kit for networks, associations, community centers and individual networkers to use for assembling, organizing and exchanging network information", and has been used by a number of social change organization.²⁴ Matching of community skills and resources with community needs, listing of prices, availabilities and quality of items for sale or for barter and preparation of a community or network-wide newsletter are all tasks for which MIST is particularly well suited.

The coordinating function of MIST could be further enhanced and expanded if it was paired with a computer conferencing software package such as the Electronic Information Exchange System (EIES).

EIES offers four basic services to its users. "Individual Messaging", Group Conferencing, "Notebooks", which are personal or shared communication spaces for writing and editing reports or papers, and "Bulletins", which is basically an on-line newsletter. In addition, EIES includes a membership directory, word processing, the ability to create user-defined operations such as customized form

²⁴From written information distributed by MIST's creators at the World Futures Conference in Washington, DC, 1982.

generation and collection and an option to interface with outside databases.²⁵

In light of the fact that HDN will be generating its own supply of trained programmers, it might, at some point, be desirable to undertake an in-house effort to design a software package specifically for HDN operations.

Depending on the demand and the availability of terminals along with the nature and complexity of particular applications, HDN information services would be accessed by either trained staff or directly by citizen/consumers who have received basic instructions regarding system use.

While on-site use of the information services would be limited by the number of available terminals at an HDC, the system could be further extended to provide access from an individuals' home via coaxial cable or telephone lines.

While home terminals are still too expensive for HDN's target population, their prices should continue their dramatic decline. Cost sharing is also possible. For example, one computer terminal could be shared by the residents of an apartment building.

Beyond these on-line information services it might be a good idea for an HDC to be equipped to produce a hardcopy newsletter or newspaper. Much of the hardware and software needed for such an undertaking would already be in place for use in other HDC functions.

An HDN publication(s) could serve many valuable functions. It

²⁵Hiltz, Starr Roxanne, "The Computer Conference," Journal of Communications, Summer, 1978.

could include some or all of the information services mentioned above and could provide local news coverage and information of particular interest to HDC community members. It might also facilitate coalition-building and political education and mobilization, and provide a training ground for a new generation of journalists.

While including the virtues of traditional Western journalism--such as objective reporting of facts--"human development journalism" might also include the "constructive" focus more often emphasized by some third world journalists. Such a synthesis might be particularly appropriate for an "underdeveloped" area within the United States. It might also help to bridge the gap between these two staunchly defended views of journalists' role in society.

It is also possible that, as HDN grows to include new centers in new communities, information from various local HDC newsletters could be combined to create a national publication. Local HDCs would electronically deliver copy from their local newsletter to a central facility that handled editing and layout tasks. Printing would be handled either centrally, with distribution by mail, or locally, following electronic distribution to local HDCs.

**OTHER
HUMAN DEVELOPMENT CENTER
SERVICES
AND
FACILITIES**

Teleconferencing Facilities

As additional HDCs beyond the pilot center begin to develop, there will be a growing need for various forms of communications between the pilot center staff and the planners of new centers, and later, among different operational HDCs and with outside organizations.

As stated earlier, data and text communications could be handled by a computer network using MIST/EIES-type software. This capability could be expanded to include audio and video at a relatively low incremental cost, since most of the necessary hardware would already be in place for an HDC's educational and telemedicine services.

A sliding-scale user-fee and strong elements of community control are suggested as a means to avoid dominance of such a teleconferencing system by the large corporate users who, as we shall see later, will be selectively invited to participate in HDN activities.

A community-controlled teleconferencing facility that shared costs with HDN's education and health services and enjoyed significant tax advantages (see section on Enterprise Zones) and relatively inexpensive real estate costs, could make teleconferencing available to a significantly wider range of users than has previously been the case.

HDN staff, consumer groups, minority organizations, non-profits, small businesses, trade unions, associations and grass-roots political organizations, among others, could use the computer, audio and video teleconferencing systems for both inter- and intra-organizational functions. These might include administration, introduction of products, services or programs, fund-raising, rallies, conventions, strategy sessions and employee education.

If used creatively, a multi-format, multi-function teleconferencing facility could become a powerful tool in social, political and economic revitalization.

Given HDN's emphasis on research and the relative lack of innovation-based research on teleconferencing, it might be a good investment to include a research function in the teleconferencing service. An interesting approach to such research is the "Teleconference Workshop," developed at the Institute for the Future at Menlo Park in California.

The workshop serves as both a research tool and a user-training program. It presents potential users with a hypothetical problem situation requiring various types of communication (e.g., information exchange, negotiation, etc.). The user/subjects are then divided into two or more groups and provided with the use of one or more teleconferencing mode along with summaries of relevant teleconferencing research findings. They use these to come to a decision via a group teleconference as to what would be the best teleconferencing mode, if any, to resolve the hypothetical situation.²⁶

Participants in the workshop learn to apply research findings to particular situations while at the same time gain direct experience in the use of teleconferencing. Such training could prepare individuals for future roles as both teleconference planners and users, both within and outside of HDN, while at the same time adding to the body of research in this growing area of communications.

²⁶Johanson, Robert, et al, Electronic Meetings, (Reading MA, Addison Wesley, 1979) p. 138.

Community Theater

Yet another use of HDC facilities could be as a community theater capable of presenting both live and video or film productions.

Programs could be obtained from outside sources or could be developed by HDN at its own studio using its production staff and students. Programs of sufficient quality and popularity could be distributed throughout HDN via satellite or by bicycling tapes among centers.

This theater function could help HDCs become social and cultural community centers while adding relatively little to system costs since it could share facilities with the teleconferencing function.

In time, a combination of HDN productions and other independent productions might be combined into a marketable package associated with HDN which could be distributed to individual households via local cable systems or any of the competing systems such as DBS, MMDS, etc.

A move into high-definition television (HDTV) and large-screen displays might also be appropriate, given HDN's strong research capability and favorable tax structure. Such a move could position HDN as a leader in the development of next-generation television.

Housing/Nursing Home Facilities

Given its planned health care service and Health Care Worker training program, an HDC might be a good place to locate a nursing home facility which could utilize the telemedicine system and also serve as a training ground for HCW trainees.

Such a facility could even become a local center for addressing the needs and concerns of the elderly, the ill and the disabled through use of the audio, video, data and publishing technologies at the HDC.

A successful example of such a mobilization can be found in the National Science Foundation two-way cable project in Reading, PA.

That project, which, due to its success, was continued after its initial experimental phase, gave senior citizens training in the use of video equipment, coupled with regular access to such equipment and to public officials via a two-way video connection.

The project resulted in considerable improvement in the quality of social services provided to the senior citizens along with the production of numerous participant-oriented entertainment and discussion programs.

A final report evaluating the project concluded that the two-way video system "became an important vehicle for social interaction and participation in community affairs for senior citizens."²⁷ Its findings also supported the notions of "the citizen as a producer of public services, in that new and more effective services and improved relationships between agencies and clients developed when

²⁷Moss, Mitchell L., Ed., Two Way Cable Television: An Evaluation of Community Uses in Reading PA: Final report to the National Science Foundation, (NYC, 1978) p. 146.

responsibilities and incentives for developing public services were transferred from delivery organizations to senior citizens."²⁸

Beyond nursing home facilities, an HDC might also include housing for HDC students and staff and perhaps other local community members.

Such a living environment would contribute to the integration of the HDC staff and students into the local community, while at the same time provide a residential model for the application of HDN principles to a full-time living situation. It might also tend to encourage its residents to view their involvement with HDN as a more complete and full-time experience and strengthen their commitment to the ideal and reality of human development and to their community.

Restaurant

A pleasant and nutritionally-minded dining facility, perhaps including entertainment, which was open both to residents and visitors, might also be a good idea for an HDC.

It could add to the attractiveness of the center as a workplace, community center and theater, by providing a convenient, pleasant and nourishing meeting place for the various users of the HDC facilities.

It would also provide practical nutritional support to health care services and accommodate special health related dietary requests.

²⁸Moss, Mitchell L., Ed., Two Way Cable Television: An Evaluation of Community Uses in Reading PA: Final report to the National Science Foundation, (NYC, 1978) p. 147.

TURNING
ENTERPRISE ZONES
INTO
HUMAN DEVELOPMENT ZONES

The growth of HDN could benefit from tax incentives similar to those included in various "Enterprise Zone" proposals.

The common core of Enterprise Zone proposals is the use of tax incentives rather than direct government expenditures to develop economically depressed inner city areas. In this period of large federal deficits, the Enterprise Zone concept is attractive as an off-budget method of encouraging economic investment in inner cities.

Critics of the idea, however, claim that, while Enterprise Zone incentives may motivate companies to locate in the Zones, they may do so without any real "development" that benefits the residents of the communities within the Zones.

These critics argue that, unless certain restrictions are imposed on Zone businesses, they will simply take advantage of the cheap labor and tax benefits provided in the Zone, while reinvesting their profits elsewhere. This would provide local residents with a limited number of low paying, dead-end jobs and little or nothing more, they predict.

Some critics even claim that local residents will end up being squeezed out of their neighborhoods as landlords seek to attract more affluent tenants in the wake of rising Enterprise Zone property values.

While such criticisms do not discount the value of Enterprise Zones, they do underscore the importance of considering the full range of community needs when designing legislation and particular Enterprise Zones. This can be done in a number of ways.

First of all, companies could be discouraged from reinvesting profits outside the Zone by limiting proposed capital gains reductions

and deferrals to those gains that are reinvested in the Zone.

Another possibility is to establish tax incentives or even requirements for companies to establish employee profit-sharing plans such as ESOPs (Employee Stock Option Plans), job training programs or tax deductible contributions to a community development fund, perhaps linked to company profits.

Another possibility would be to require that local tax revenues generated by economic activity in the Zones be targeted solely to infrastructure improvements within the Zone community.

While all of the above suggestions have merit, they also tend to dilute the tax incentives likely to encourage Zone investments.

In light of the apparent need for a careful balancing of benefits and costs to both the community and the businesses, some experts believe that Enterprise Zone legislation should avoid strictly standardized formulas and rigid requirements that are applied to all Zones.²⁹

Rather, they recommend a process which relies mainly on locally designed plans and standards, subject only to initial federal approval and occasional overview based on a very broad set of general standards. This approach, they say, would be the most likely to achieve a mutually beneficial relationship between the host community and the businesses which seek to benefit from their Enterprise Zone status.

With this in mind, it is suggested that the basic principles and functions of HDN be considered in the design of revamped Enterprise Zone legislation and of a pilot "Human Development Zone."

²⁹Cherry, Richard, "A New Answer to an Old Problem - Urban Jobs and Enterprise Zones", Commentary, January, 1981.

This could revitalize the still-controversial Enterprise Zone policy initiative, by broadening and deepening its focus in a manner that might satisfy both supporters and opponents.

As a technologically and socially progressive center of community services, a Human Development Zone, utilizing HDC and HDN facilities, could serve as a two-way conduit through which mutual benefits could flow between businesses and community residents.

For example, a carefully planned program of balanced economic growth could be developed wherein the present and future employment needs of Zone businesses were matched with a vocational training program centered at the community HDC. Companies could be required to contribute to the financial support of both training and health care programs for their employees and would receive substantial tax write-offs and well-trained, relatively low-cost employees in exchange. They would also benefit from the on-site teleconference service and other services available at the HDC.

To make this proposed symbiosis a reality the commitment, creative imagination and active cooperation of government officials and community and business leaders must be mobilized in a joint effort to develop and implement a realistic development plan.

Similar efforts have been undertaken in the past, though usually on a smaller scale than is proposed here. Some have been quite successful, including the Control Data Corporation Bindery, which was located in an inner-city neighborhood.³⁰

³⁰Bendick, Marc Jr. and Egan, Mary Lou, "Private Sector Jobs in the Inner City: The Control Data Experience", Commentary, January, 1981.

CONCLUSION

This paper has attempted to combine innovative use of telecommunication and computer technology with progressive and holistic approaches to the provision of health care, education and community development in order to create a synergistic development dynamic in underserved communities in inner-city and rural America.

Should our nation continue on its present course into the information age, we risk creating a society of information haves and have-nots. This dynamic threatens to aggravate already severe inequalities in education, health care and social, economic and political development. As periodic outbursts of urban violence have shown, this deeply-entrenched negative cycle has extremely destructive potential.

Though modern communication and computer technology can intensify this cycle, this paper has argued that the same technology can also be used to reverse the cycle. It has also argued that an integrated, holistic and synergistic strategy is best suited to counter the powerful negative momentum that has been built up over the years.

As presented in this paper, the core of one such strategy is the creation of a Human Development Network, a new institution whose primary goal is to develop and deploy systems that harness the revolutionary power of modern communication and computer technology to the vital task of human development.