

# Computer Use in Social Services Network

Vol 9 No. 3&4  
Fall/Winter 89

## Networking: The Linking of People, Resources and Ideas

### Table of Contents

<b>About the Network</b> .....	1
<b>Editor's Notes by Walter LaMendola, Bryan Glastonbury, and Stuart Toole</b> .....	2
<b>Services Available</b> .....	3
<b>CUSSN Disk Copy Service latest disks</b> .....	4
<b>Articles, Reviews &amp; Reports</b>	
Computerization of Social Work and the Cognition of Societal-Civilisational Changes by Norbert Janetzke .....	7
Developing an Information Technology Center with Limited Resources by Brian W. Klepinger .....	11
Implementing Information Systems for Services to Homeless Populations by Larry W. Kreuger, John J. Stretch and Alice K. Johnson .....	18
Computers and The Investigation of Child Abuse & Neglect by C. A. McNeece, & J. R. Jolley .....	24
Using a Personal Computer in a Small Rural Social Service Setting by Gordon G. Ragland, Jr. ....	30
Human Services Computer Networking by Gerald W. Vest, Mike Connealy and Reba Nichols .....	34
Technology and the United Way Movement by Douglas E. Warns .....	38
Computer Conferencing in the Classroom—A Group Intelligence Study by Edward M. Wondoloski ..	43
<b>CUSSnet Nodes</b> .....	47

### About the Network

**Computer Use in Social Services Network (CUSSN)** is a nonprofit association of professionals interested in exchanging information and experiences on using computers in the human services. Members participate in the Network by:

- Sending materials for the CUSSN Newsletter, such as: needs, interests, hardware/software use, activities, resources, ideas, experiences, computer applications, and events. Send either in printed or MSDOS format
- Distributing Newsletters at workshops and conferences. (I will send newsletters to distribute or place on a resource table.)
- Holding local CUSSN meetings. CUSSN meetings in California, Baltimore and Israel have been successful.

**Network Dues:** \$15 individuals, \$25 institutions (payable in U.S. Funds). Contact Dick Schoech, Associate Professor, School of Social Work, The University of Texas at Arlington, Box 19129, Arlington, TX 76019.

**The Newsletter** is published approximately 4 times a year and is sent free to all network members. A single issue is approximately 20 pages, a double issue is approximately 40 pages. Back issues are \$5 each.

**The Disk Copy Service** makes human services demos and shareware available to members for a small processing fee. Write for free listing of software and see inside this newsletter for newest disks. **The Electronic Network (CUSSnet)** establishes local bulletin boards, national and local mail and file transfer, downloading of public domain software, and access to several databases on human service computing.

**CUSSnet** builds on FIDONET, about 6000 microcomputer-based local bulletin boards across the U.S. and in 9 continents. Contact your local computer store for a list of local FIDO/OPUS nodes. Communications are at 300-2400 baud, 8 data bits, 1 stop bit and no parity. Almost any computer or terminal and modem will work. Usually no fee is required.

**The Skills Bank** allows members to locate/share specific knowledge, skills & experiences. Contact Gunther Geiss, Adelphi U., School of Social Work, Garden City, NY 11530.

**The Software Clearinghouse** offers a computerized inventory of human service software. Contact Cindy Richie, U. of Washington, School of Social Work, 4101 15th Ave. NE JH-30, Seattle, WA 98195.

**Special Interest and Area Group** are subgroups where significant networking is occurring.

- **Educators SIG**, c/o Wallace Gingerich, School of Social Welfare, U of Wisconsin-Milwaukee, Milwaukee, WI 53201.
- **Hospital Social Services SIG**, c/o Mike King, Director of Social Wk & Discharge Planning, St. Francis Hospital, 100 Port Washington Blvd, Roslyn, NY 11576.
- **Baltimore, MD**, contact Bob Elkin, Professor, U of Maryland, School of Social Work & Community Planning, 525 W. Redwood Street, Baltimore, MD 21201
- **California**, James M. Gardner, Department of Developmental Services, Fairview State Hospital, 2501 Harbor Boulevard, Costa Mesa, CA 92626

See also country contacts listed on the back cover.

## Editors' Notes by Walter LaMendola, Bryan Glastonbury, and Stuart Toole

Walter LaMendola is a Consultant, 1412 South Grant, Denver, CO 80210, Bryan Glastonbury is Head, Dept. of Social Work Studies, The University of Southampton, Southampton, U.K. SO9 5NH; Stuart Toole is Senior Lecturer, City of Birmingham Polytechnic, Dept. of Sociology & Applied Social Studies, Perry Barr, Birmingham, England B42 2SU

It is fascinating to return to these papers after such a long absence. The period between HUSITA87 and this publication now equals two years. To us, the papers seem to have aged well, and the principles, issues, and concepts articulated by the authors are surprisingly contemporary. In the only exception to the rule, we are aware of one project which has been completely dismantled—that is the project described by Klepinger in his paper. However, we believe his advice to be valid and cogently put. Therefore, we have included his paper in this group. On the other hand, the New Mexico social networking experience described in Vest, Connealy, and Nichols paper continues to thrive and provide an important experience for social networking using computers. At the far extreme, CAUCUS software, described by Wondoloski, has moved out of the classroom and is now in use in an exciting experiment to provide a public networking facility for a California community.

Janetzke, in the first paper, focuses upon issues surrounding the implementation of computerized decision-making tools in social welfare in Germany. As he points out, the technological implementation process must take into account the consequent changes in social reality which will occur. Such changes can jeopardize individual rights of the client, and, Janetzke holds, degrade human service practice. In Janetzke's terms, the principles underlying the ethical application of the technologies have yet to be articulated. An opposing point of view underlies the premises of Klepinger's paper. His concerns are directed towards information technology use and application as an immediate method of advancing human service practice. While neither writer would disagree on the ethical problems or the advancement of information technologies, Janetzke seems much more tentative in defining what he terms the "action space" for social work.

The papers by Kreuger, Stretch, & Johnson and McNeece and Jolley have increasing interest in an

arena, such as the United States, where tracking systems and the research base that they can provide have been highlighted. Much contemporary work in the United States has attempted to marry evaluation and client monitoring, and both papers are instructive in this regard. In a way, computerization may support the marriage by providing access to data in a form requested by multiple audiences—clients, workers, managers, and funders. In turn, the authors view this trend as contributing to the formation of public policy in critical social problem areas, such as policy for the United States homeless population and policy for those in the United States involved with the problem of child abuse and neglect.

Gordon Ragland details the experience of a major social service entity in Charlotte with computerization. The applications he outlines are common to the needs of many agencies. The results in production terms are impressive, as is the willingness of staff to master the new technology. The provision of increasing computer support for social agencies is detailed in the article referencing the New Mexico experiences of Vest, Connealy, and Nichols. The use of workshops and electronic bulletin boards to support social networking is elegantly described in their work. An even more comprehensive approach related to both the Charlotte and New Mexico experience is presented by Warns. The work of Warns and the United Way of America has often been overlooked and rarely described for the human service field. However, it represents an important and mature experience of information technology application in the human service. The continuing development and vision of the United Way of America information system effort in their Second Century Initiative needs to be shared and related, not only to the work of all United Way member agencies, but also to the human service community at large.

Finally, Ed Wondoloski shares his vision with us. His language and ideas are compelling and intriguing: see how they fit on you! You may leave his article like his students probably left his class—with an inscrutable "cultural smile"—and an experience of, as Ed might say, closing the gap between the human condition and human potential. We hope HUSITA87 and the weight of the work published has contributed in much the same way, and we look forward to passing on the baton to another HUSITA, to another set of shared discoveries and experiences.

# Services Available

Vendor/Consultant	Contact Person	Services
<b>California</b>		
Planet Press P.O. Box 3477 Newport Beach, CA 92663-3418	Anne Breuer (714) 650 5135	Consultants and developers for schools, group homes, residential facilities, and human service providers. Specialist software for Quality Assurance, Case Management, Behavior Management and Human Rights Documentation, Consent Decree Litigation Review, Adaptive Behavior assessments, School Psychologist Report Writing.
<b>Florida</b>		
Community Service Council of Broward County, Inc. 1300 South Andrews Avenue P.O. Box 22877 Fort Lauderdale, FL 33335	Carole L. Dowds CIE Programmer/Coordinator (305) 524-8371	A full range of consulting and technical support in the automation of Social and Human Services. Systems include Agency Inventory/Directory Production, Information & Referral, Client Case Management, Mental Health Client Tracking. Personal computer and minicomputer versions available.
<b>Indiana</b>		
Master Software Corp. 8604 Allisonville Rd., Suite 309, Indianapolis, IN 46250	J. B. Love, Vice President of Sales (317) 842-7020	Fund-Master development software features donor/prospect tracking, online inquiry to demographic and pledge/gift records, account selection capability, word processing interface, labels, campaign analysis, pledge processing, and more. Fund-Master runs on IBM PC's & compatibles, Data General Desktop and MV series. Single-and multi-user versions are available.
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ECHO Consulting Services, Inc., Box 540 Center Conway, NH 03813	Loren Davis, Director of Marketing 603) 447-5453 (800) 635-8209	Complete Human Service Software Systems including client information and tracking, accounting, and fund raising.
<b>New York</b>		
King Associates, LTD. 215 Shoreward Drive Great Neck, NY 11021	Michael A. King, D.S.W. (516) 487-5995	Producers of AMIS - flexible off-the-shelf software for hospital social work and discharge planning departments. Consultation on using spreadsheet and word processing programs. are also available.
<b>North Carolina</b>		
National Collegiate Software Clearinghouse, Duke U. Press, 6697 College Station, Durham, NC 27708	Paul Baerman (919) 737-3067	A non-profit, educational, software service which distributes 240 low-cost programs for IBM format. Offerings include PC DataGraphics & Mapping (\$35) and Abnormal Behavior Tutorial (\$23). Write or call for a free catalog.
<b>Pennsylvania</b>		
Handisoft, 4025 Chestnut St., Philadelphia, PA 19104	John G. Vafeas, D.S.W. Consultant (215) 898-4933	Feasibility Studies; Training; Custom Designed Software, Sales of Popular Software & Hardware (own line of PC Clones); Networks: Sales, Installation and Support; and Hardware Maintenance.
<b>Wisconsin</b>		
In-House Information Systems, Incorporated. 1540 Blaine Racine, WI 53140	Kim House, President (414) 637-2093	MIS consultants to local governments and public service agencies. Information systems design from initial definition to programming specifications to implementation. Hardware and software purchasing recommendations, training, system documentation and MIS budgeting. Independent of hardware and software vendors
<b>Toronto, Canada</b>		
Human Services Informatics Ltd. (HSI) 600 The East Mall, 2nd Floor Toronto, Ontario M9B 4B1 Canada	Jim Armstrong, Ph.D., President John MacNeil, M.S.W., V.P. & Sales/Marketing (416) 622-8890	Developers of specialized information management systems which enable human service agencies to manage caseloads, service transactions, human and financial resources. This integrated software package has a unique query ability and permits users to ensure quality care and contain costs, on a constant basis. Requirements: IBM or compatible 80286, Xtrieve. Compatible with SYSTAT and SPSS for more sophisticated statistical data analysis.

**Service Listing Announcements:** Interested vendors/consultants should send payment along with their description. Rates are as follows:  
Under 15 words, \$18 per year. Under 30 words, \$28 per year. Under 45 words \$10 per issue or \$34 per year. Under 60 words, 12 per issue or \$40 per year

**Space Advertisements:** Advertising space is available in the CUSS Newsletter at the following rates:

one eighth page in one issue = \$15      one half page in one issue = \$45      one full page in one issue = \$75  
one fourth page in one issue = \$25      three fourths page in one issue = \$60      two full pages in one issue = \$120

Advertisers must furnish a copy ready ad. If the ad will be run for four issues, a 25% reduction in cost is granted.

**Mailing labels:** Mailing labels are available at the cost of 10 cents per label.

# CUSSN Disk Copy Service

## Definitions of software codes:

- [D] = Demo—Software that highlights a product and/or gives you the feeling of how the actual product operates.  
 [F] = Freeware—Full working version; no restrictions on use.  
 [L] = Limited Use Version—Lets you examine the product, but limitations prevent continued use.  
 [U] = User Supported Shareware—Full working copy; you are expected to register and pay the vendor if you use it.  
 IBM-PC = Will run on the IBM personal computer and compatibles.  
 {HD} = Requires a hard disk.  
 {C} = Requires a color graphics card.  
 Note: Disks are direct from the vendor and copied with vendor permission. Thus, disks are free of computer viruses.  
 All disks are guaranteed to work. However, disks may get damaged in the mail. If you have a problem, do a PrtSc of the problem and return it with your disk for a new copy.

## New Disks since the Last Issue

- AMS (1 disk)**—Academic Merit System—Automates the merit review process [L] IBM-PC  
 AMS is an automated merit review system for use by faculty and Personnel Committee for evaluating faculty performance.
- ANGER-ADVOCACY (1 disk)**—Training courses on Responding to Anger & Legislative Advocacy [F] IBM-PC  
 Electronic courseware (manual & tests) on "Responding to Anger and Hostility: Effective Intervention Skills & Safety Issues" and "Active Participation in the Texas Legislative Process." Completion of tests and payment receives CEU credits.
- ARES (1 disk) Demo of an At-Risk Evaluation System [D] IBM-PC**  
 The ARES is a battery of 20 individual surveys consisting of over 700 items designed to identify multiple risk factors, problems, issues or personal concerns.
- Clinic Accounts Receivable (1 disk) Demo of 3rd party billing, sliding-fee program [D] (IBM-PC)**  
 System includes complete client and staff information for case management as well as provider data for complete electronic billing.
- Decisionbase (4 disks) Demo of integrated mental health software [D] IBM-PC**  
 This demo—sampler illustrates how Decisionbase computerizes the following: DSM-III-R diagnoses and textbook, medical record keeping, progress notes, treatment selection, and monitoring outcomes. It allows the therapist, patient or informant to generate a diagnosis or history.
- DEMOBBS (1 disk) Freeware menu-driven, interactive BBS tutorial [F] IBM-PC**  
 DEMOBBS introduces the services provided by the NASW New Mexico BBS and introduces Fidonet, CUSSnet, and the Opus BBS system. User can connect with the NASW New Mexico BBS using an on disk communications program.
- Foster Care Protections (3 disks) Shareware system for auditing foster care records {HD}{C} [F] IBM-PC**  
 System to aid in auditing foster care records. Written in Prolog. Source code included.
- MedSWIS (2 disks) Demo of a hospital social work information system [D] IBM-PC.**  
 MedSWIS helps hospital social workers track and allocate resources by collecting data and producing 34 report.
- Micro-Psych (1 disk) Demo of office management system for individual/group practices [D] IBM-PC.**  
 Illustrates how Micro-Psych aids in billing, insurance claim completion, prescription writing, correspondence, expense tracking, appointment scheduling, record keeping and ad-hoc reporting. Specify either a monochrome or color system.
- PC-CAI (1 disk)—Shareware system to develop computer aided instructions [U] IBM-PC**  
 Shareware software for creating tutorials without having to know a programming language. Uses sound, graphics, animation, color and in asking questions and evaluating answers.
- PC-PASS (1 disk)—Demo of authoring system with two social policy examples [D] IBM-PC**  
 Demo of PC-PASS, a program which allows instructors to construct tutorials which present information, prompt users for responses, and score user performance. 10 social policy tutorials are available, two are included on this demo.
- PSYSEARCH (1 disk)—Demo of a psychiatric diagnostic aide using a DSM-III-R type decision tree [D] IBM-PC**  
 Demo of an interactive diagnostic aid. Based on the users yes/no answers to questions, the software helps the user reach one of 70+ diagnostic conclusions.
- Right Writer (1 disk) Demo of grammar and style checking program [D] IBM-PC**
- siAMS (1 disk)—Demo of a generic Agency Management Package [D] (IBM-PC)**  
 siAMS contains 4 modules; case management, personnel management, list management and promotion/fundraising management.
- SIMCON (1 disk) Shareware policy simulation [U] IBM-PC**  
 Allows students to see how various actions and roles will impact a decision to coordinate human service programs.
- SPELL GAMES (1 disk)—Shareware game to help learn how to spell [U] IBM-PC**  
 Game displays a word on the screen for an instant and you must spell the word by typing it on the keyboard. Words are based on national spelling bees.
- Tests1(1 disk) 5 tests for game and curiosity purposes [UF] IBM-PC**  
 Tests to use as games and to illustrate test computerization and how programmers handle the test/user interface and data presentation. Tests cover assertiveness, depression, locus-of-control, sex role identity, and a Myers Briggs lookalike.
- The Psychiatric Assistant (2 disks) Demo of a system to assist clinicians [D] IBM-PC**  
 Demo of system to assist the clinician with writing progress notes and reports, making DSM-III-R diagnoses, storing and tracking literature abstracts, doing med evals, etc. While designed for psychiatrists, it can be customized for other clinicians.
- TPPM (1 disk) Demo of The Psychotherapy Practice Manager to manage records, appointments & billings [D] IBM-PC**  
 Demo illustrates system to maintain client records including intake, history, and contact information with integrated client fees and payments.

## Disks described in previous issues

### Developmental Disabilities

- AUGMENT** (1 disk) – Information on augmentative communication readiness [F] IBM-PC (no copy charge)  
**CAPTAIN'S LOG** (2 disks) – Cognitive Rehabilitation System [D][C]IBM  
**McDSC** (1 disk) Community Residential Services Demo MIS from Micro Decision Support Center [D] IBM-PC  
**DD Connection** (1 disk) – Illustrates a Developmental Disabilities (OPUS) bulletin board [D] IBM-PC (no copy charge)  
**Freedom Writer** (1 disk) – Demo of input program for persons with limited mobility [D] IBM-PC  
**HSIS** (1 disks) – Demos of customizable client information system [D] IBM-PC  
**Newkey** (1 disk) – Shareware key redefinition keyboard enhancer [U] IBM-PC  
**1-Finger** (1 disk) – Handicapped Keyboard Enhancer from Trace Research & Developmental Center [F] IBM-PC  
**Stickey** (1 disk) – One finger/stick program with keylock for people using a stick access device from C-CAD [U] IBM-PC  
**WPK** (1 disk) Shareware easy-to-use large type font Word Processor [U] IBM-PC

### Education/training

- AMS** (1 disk) – Academic Merit System – Automates merit review process from WALMYR Publishing Co. [L] IBM-PC  
**BASIC Professor** (1 disk) – An interactive BASIC tutorial from Eagle Software [U] IBM-PC  
**Empirical Practice** (3 disk) – Materials for a course on empirical practice [F] IBM-PC  
**Examination Administrator** (1 disk) – Test administration and scoring program [L] {HD} IBM-PC  
**GRADES +** (1 disk) – Course grading program from Penguin Computing [D]IBM-PC  
**MEL** (2 disks) – Demo of Micro Experimental Laboratory system [D] IBM-PC {C}  
**PC-FASTYPE** (1 disk) – Typing instruction program [U] IBM-PC {C}  
**SCREE** (1 disk) – Sequential Criterion Referenced Educ. Evaluation System from WALMYR Pub. Co. [L] IBM-PC  
**TAS** (1 disk) – Teacher Assessment System from WALMYR Publishing Co. [L] IBM-PC  
**TUTOR.COM**, (1 disk)(Ver 4.4) DOS Tutor from Computer Knowledge [U] IBM-PC

### Health

- AIDS Information** (2 disks) – Hypertext shareware [U] with AIDS example [F] [D] IBM-PC  
**AMIS** (1 disk) – Hospital Social Work/Discharge Planning demo from King Associates Ltd. [D] IBM-PC  
**Medical Rehabilitation Manager** (2 disks) – Demo from Easter Seal Society [D] IBM-PC {HD}  
**Vocational Rehabilitation Manager** (1 disk) – Demo from Easter Seal Society [D] IBM-PC {HD}

### Mental Health

- Agency Simulation** (1 disk) – Agency simulation source code & reports for Dec 10 [F] IBM-PC  
**CAS** (4 disks)(Ver 5.2) – Clinical Assessment System from Walmyr Publishing [L] IBM-PC  
**DIS** (1 disk) – Demo of client self-administered Diagnostic Interview Schedule from U. of Wisconsin [D] IBM-PC  
**Hamilton Depression Assessment** (1 disk) – from Grant Fair [F] IBM-PC  
**Help-Software** (1 disk) – Demo of self-help software for assertiveness, self-esteem and stress from CATSco [D] IBM-PC  
**MMPI** (1 disk) MMPI interpretation demo from Applied Innovations [D] IBM- PC  
**PsyMed** (2 disks) – Guide to psychotropic medications from Psych Soft Inc. [U] IBM-PC

### Management

- Bernie Cares** (2 disks) – I&R demo from Central Referral Service, Inc. [D] IBM-PC {HD}  
**Community Services Locator** (1 disk) – I&R demo from Pinkerton/Galewsky [D] (IBM-PC)  
**Development System** (1 disk) Demo of fund raising and membership/subscription program [D] IBM-PC  
**Donor Network** (3 disks) – Shareware donation and pledge tracking system from A + M Software [U] (IBM-PC) {HD}  
**EZ-Forms** (1 disk) – Forms generator and manager from EZX Corp. [U] IBM-PC  
**Fixed Asset Manager** (2 disks) – Shareware Fixed asset system from A + M Software [U] (IBM-PC) {HD}  
**Fund Accountant** (2 disks) – Shareware fund accounting system from A + M Software [U] (IBM-PC) {HD}  
**Fund Accounting** (1 disk) – Demo from Executive Data Systems [D] IBM-PC  
**Fund Accounting Manager** (2 disks) – Demo from Easter Seal Society [D] IBM- PC  
**HSS** (1 disk) – General Ledger demo from Great Lakes Behavioral Research Institute [D] IBM-PC  
**In-Site Billing** (1 disk) – Demo from Applied Innovations [D] IBM-PC  
**MIS Manager** (2 disks) – Shareware computer inventory tracking system from A + M Software [U] (IBM-PC) {HD}  
**MPB** (1 disk) – Multi-Provider Billing System demo from Applied Innovations [D] IBM-PC  
**Nonprofit General Ledger** (1 disk) – Shareware nonprofit general ledger [U] IBM-PC  
**Painless Accounting** (3 disks) – Office accounting system from Painless Accounting [U] IBM-PC {HD}  
**Professionals' Billing System** (2 disks) Clinical Practice Billing System from S. Shapse [U] IBM-PC {HD}  
**SNAP-1** (1 disk) Demo of a Simple Nonprofit Accounting Program [D] IBM-PC  
**SuperSync** (1 disk) – Demo for analyzing and managing teams in the workplace from SwixTech [D] (IBM-PC)  
**Volunteer Network** (3 disks) – Shareware for tracking/scheduling volunteers from A + M Software [U] (IBM-PC) {HD}

### Statistics

**CRUNCH** (1 disk) – Demo from Crunch Software Corp., [D] IBM-PC

**KWIKSTAT** (2 disks) – Shareware statistical package, Ver 1.3 [U] IBM PC {C}

**SAS** (2 disks) – Demo of the SAS statistical package [D] IBM PC

**SPPC** (4 disks) – Stat Package for the Personal Computer (student edition) from WALMYR Publishing Co. [F] IBM PC

### Welfare

**Child Abuse** (1 disk) Intake Prioritization Expert System demo from Dick Schoech [F] IBM-PC

**TNCinfo** (2 disks) Texas Networks for Children Electronic Information System [U] IBM-PC

### Miscellaneous Packages and Utilities

**Book Maker** (1 disk) from WALMYR Publishing Co. [L] IBM-PC

**Campaign Jr.** (1 disk) Demo of software to manage small political campaigns [D] IBM-PC

**Disk Protector** (1 disk) from WALMYR Publishing Co. [L] IBM-PC

**EXSYS** (2 disks) Expert System Shell demo from EXSYS, Inc. [D] IBM-PC

**Pen Pal** (1 disk) from WALMYR Publishing Co. [L] IBM-PC

**Help build the list. If you have found a human service oriented demo/freeware/shareware disk to be useful, please send it along. For every demo/freeware/shareware disk you send me, I will send you any two disks free.**

#### **Demo/shareware/freeware disk order form**

To order, circle the disks requested. Enclose \$5 per disk (\$7 for non-members and overseas mail) to cover mailing and handling. Disks may be accompanied by vendor advertisements, order forms, etc. Proceeds from disk sales go towards furthering the CUSSN activities. Order from D. Schoech, CUSSN, UTA, Box 19129 GSSW, Arlington, TX 76019-0129. Make checks payable to CUSSN. UTA's Federal Taxpayer ID number is 75-6000121W..

Number of software products = \_\_\_\_\_; Number of computer disks = \_\_\_\_\_

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# Computerization of Social Work and the Cognition of Societal-Civilisational Changes

## by Norbert Janetzke

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### Introduction

In my contribution I would like to highlight a project focusing on the introduction of a new technology in the social welfare sector in the Federal Republic of Germany.

This project is named "Organizational Development and Computer-Assisted Welfare Work in the Social Services" and is sponsored by the Federal Minister of Research and Technology within the "Humanisation of Working Life" program. This program aims at humanizing social welfare offices, and improving their services in terms of citizens/clients interests.

In the FRG social assistance is a public task. It is legally stipulated that municipal social welfare offices have to safeguard the basic needs of their destitute citizens; moreover, the offices' duties include advice and assistance.

### The Social Problem Situation

There are more than 30 million unemployed people within Western Europe. This imposes an increasing pressure on social work caused by the problems of the labor market. Those people who, due to selective procedures, are stamped "unfit for prevailing labor market conditions", are to an aggravating extent expelled from the labor market and referred to social services. The problems of unemployment — and the governmental incapability to solve them becomes more and more apparent — increasingly turn into fundamental problems of social work.

In the FRG the unemployment of more than 2 million people leads to a significant increase of the number of public relief recipients as additional restrictions of unemployment insurance become effective. People are being thrust into socially defined poverty, when their income remains under the minimum of existence.

Altogether estimations range between 1.5 million households with almost 3 million people receiving financial aid to some extent. Since the middle of the 70s the number of supported households has doubled. This number does, however, not include the "hidden figures of poverty", referring to those people who would have a right to claim financial aid, but who, due to various reasons and anxieties or due to unawareness, do not make use of the offered possibilities.

Presently for more than 30 percent of all aid recipients, "loss of job" is the main reason to call for public relief. A significant decrease in unemployment problems can be seen between large, middle, and small towns, and rural areas. The worst problems are in the bigger towns. And it is there, that we register a growth in the rate of constant unemployment and repeated unemployment accompanied by forced selection.

Especially hard hit among unemployed social aid recipients are young able-bodied persons below 25 years, single women, and both male and female unskilled workers. This new clientele burdens the social welfare offices with both new kind of problem syndromes and with broad individual variety. Familiar psycho-social problems can hardly be satisfied by financial relief alone and officials are faced with demands with which they can not sufficiently cope.

The necessary qualifications in regard to knowledge about steadily enlarging numbers of legal rules and individual therapies are growing immensely. Moreover, it becomes increasingly difficult to survey all available possibilities of relief for a case in question with its specific problem constellation.

The federal regulations about social welfare orientate their relief at the respective individual case, its special needs and personal conditions and abilities, allowing the officials a considerable action space as to the decision about the kind and amount of relief in order to justify its claim for individual treatment. As to the sector of employment service, however, these possibilities of support are restricted to an inappropriate minimum.

### The Introduction of New Technologies in the Field of Social Services — Presentation of a Project

With my brief introduction I wanted to give a survey about the "environmental" conditions of social work in social welfare offices, where new technological systems are now being employed in order to improve the internal working conditions of social welfare offices. The reasons for the employment of computers (personal computers) are manifold:

- The officials in social welfare offices are desperately overburdened by the increasing number of cases, as new workplaces are occupied to a very low extent.
- The officials suffocate in monotonous routine work and an increasing flood of paper, partly caused by legal requirements as to the examination of the conditions of cases and the finding of a decision in each case, partly by the formerly applied central EDP procedures, dividing the service work into separated steps and encouraging an enormous flood of paper.
- Facing the steadily growing differentiation of legal matters the officials are hardly capable to gather a comprehensive survey about legal prerequisites.
- The clients' legally stipulated claim for advice cannot be adequately met. There is simply no time and no "tranquility" for extensive consultations. This can mean, that the client is not sufficiently informed about existing assistance possibilities, that he/she does not obtain the appropriate financial support, and that the gravity of his/her situation remains unrecognized until financial aid and consultation alone will no longer do to give impetus to motivate the client's proper social and individual potentials to overcome his/her problems by self-help to the largest extent possible.

The implementation of new technological systems (information and communication technologies) is expected to provide a reduction of routine work, a better informational basis for the officials and the acceleration of the handling of

cases comprising the payment of financial support and the delivery of the official notice about the amount of support at the very day of application.

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A team of scientists and administrative specialists at a professional academy for public administration elaborated a draft version of a software program to deal with social welfare activities, which is orientated at legal requirements and which was submitted to all the four participating communities for examination and improvement. This software bears the abbreviation "PROSOZ" for programmed social welfare.

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In the four participating communities project groups consisting of officials of all levels concerned (officials, administrative and office management, EDP centers and so on) have been established in order to plan an organizational development of the social welfare offices, and enable the reorganization under conditions of implementation of new technologies ("PROSOZ" and corresponding hardware).

The design of the technical configuration (PC-software-programme, hardware, background procedures, interfaces and so on) and the improvement and modification of the draft software version with respect to specific local requirements (office organization, local problem situation, etc.) is another subject of these project groups. They work in a way of participative rapid prototyping in cooperation with the program authors at the professional academy for public administration.

These remarks shall be enough to introduce the project and its targets.

## Perceptions about the Computerization of Social Work

Now I would like to present some thoughts, that I consider important within the context of the computerization of social work and put it to discussion.

The implementation of new technological systems enters into a specific surrounding within social welfare offices. The historical development of these environmental circumstances, however, was not motivated by the urge to solve occurring problems.

The implementation of new technologies is basically schemed to fit universally, reducing the boundaries of its legitimation in many sectors to stereotype samples, that can easily be transferred when slightly altered according to the field of employment.

The implementation of the new technologies, however, itself engenders a change of the social and organizational context, whose extent and direction can still not sufficiently be described, and which is caused by its specific environmental requirements (referring to algorithmic transformation, formalization, standardization of the flow of data and information, structure of information processes, and standardized preparation of information etc.).

Norbert Elias in his book "Engagement and Distance" delivered a convincing presentation of our attitude of helplessness towards self-created social processes maintaining that we feel as hopelessly exposed to them as people of former ages might have experienced natural phenomena.

Therefore we have to take into consideration that dealing with technology not only comprises the planning of the technical implementation processes and the training of the personnel, but most of all, that we are going to change our social reality. Language and communication, thought and perception, and social interaction will be subject to certain changes, when they are exposed to the influence of new information and communication technologies. Safeguarding the interests of our democratic constitution and the constitutional tasks of public organizations is a systematical consideration of co-relating consequences in research work and above all regarding the political responsibilities seems to be unavoidable.

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*Language and communication, thought and perception, and social interaction will be subject to certain changes, when they are exposed to the influence of new information and communication technologies*

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The computerization of the social services sector raises new problems and implications, which for various reasons up to now have only been dealt with rarely and rather hesitatingly. In this regard the questions about long term social and societal consequences, changes of the idea of mankind, of communication processes, identity, and ethical aspects have been expressed much more categorically elsewhere. Modern technology cannot be reduced to electronic processes and therewith made controllable by EDP qualifications. Technology is a social, societal, and philosophical subject with inherent historical-social and civilisational processes — only by such consciousness can technological consequences be recognized and influenced.

## Anticipated Thoughts about Social Consequences of Computerized Social Work

The following notions referring to questions of subsequent processes related to the computerization of social work which neither demand completeness nor balancedness. They rather mark theoretical steps, fragments leading to awareness, that emerged within the context of the presented project and which originally refer to a visionary prospective entirety, without my being able to picture them at this occasion. In this sense my thoughts seem like a mosaic work without the pavement to lay it in. They represent a

search for traces on paths, that research and politics cannot deny.

### Conditions of Application of New Technologies

Within the sector of social services, computerization can contribute to improve the administration related handling of social problems. This can be sensible because routine work, impairing and restricting social work, thus can be reduced and transferred to the technical system. Calculating, accounting, cash, and pure documentation and administration work can be accelerated, thus providing the time necessary for qualitative social work such as advice, personal help, discussions, problem investigations, therapeutical measures, and so on. The problems raised at that moment, when financial aspects dominate to such an extent, that the saved time and action space is sacrificed to a subsequent reduction of personnel and an increased intensity of the respective work. Under such conditions the streamlined and accelerated dealing with social problems with respect to the clients rather appears subordinated to general schemes and patterns, and may, under certain circumstances, even abolish the indispensable view for social-political reforms and solutions of social problems.

### The Individual Problem Situation and the Resort to the "Typical" Case

The software program "PROSOZ" is meant to support the official's legal application practice and presents the entire consecutive logic of legislation by control of a menu. The program cannot be oriented at the individual case, but has to present the so-called typical case and tends to neglect special or rare problem aspects. The "typical case", however, is only a fictitious abstraction, subordinating situative elements to general prescriptions and curtailing the individual situation in a way to comply with those conditions available to the programme-designer of the software, and according to the generally compulsory state of affairs stipulated for the realization of legal regulations. Parameters, however, do not allow any access to the individual and the actual problem situation.

Therefore the qualification requirements of the officials increase above all within the field of well-grounded investigations about the individual situation of the respective case and concerning discretionary decisions within the frame of legal applications in order to rectify the anonymous elements of the technical system. A challenge to the quality of administrative action is stimulated, and as the organization of administrative action has to meet special legal demands, such as the extension of services like problem investigation, consultation, and personal assistance, it is forced to create specific qualification concepts and compensational components.

In the absence of extensive and valuable compensation, the application of information and communication technologies will jeopardize the legal realization of constitutional standards and submit social work to a dangerous routinisation. This is, however, the exact opposite of what the social problem situation requires. The problems of indigent people are becoming increasingly complex—referring to the handling in social welfare offices—and can to an ever diminishing extent be summarized under "typical case" examples. Every tendency to rationalize social work on the basis of a

"typical case" will conflict with social needs and in the long run lead to severe consequences. Moreover, a decline of the achieved standards of the quality of social work would have to be expected concerning the evaluation and significance of individual psycho-social factors.

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*...the application of information and communication technologies will jeopardize the legal realization of constitutional standards and submit social work to a dangerous routinisation*

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### The Cognition of Social Reality and the Origin of Experience-Based Knowledge in Social Work

Within the frame of our research work there is another sphere of difficult to investigate consequences that we try to approach only laboriously. In this context the influence of the technical system, or more exactly the influence of the controlling software on the official's perception with respect to his personal working methods and his/her way to find decisions, will be discussed. Experience is based on perceptions and experience structures selective perceptions. But how the genesis of experience and experience-based knowledge in social work will change, due to increased computer use, and what consequences will result therefrom for the social workers' competence, their communicative abilities, and their way to treat people, remains in the dark.

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*...how the genesis of experience and experience-based knowledge in social work will change, ...and what consequences will result, ...remains in the dark.*

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The software of technical systems controls the way of those people dealing with them to get down to one of the presented problems. Comprehensive technical knowledge becomes one of the prerequisites to work in this sector of social work. In this context we will have to put a lot of questions. Will expert knowledge be influenced herewith, will the system increasingly determine decisions and control and direct man by tight and rigid prescriptions? Will new experiences and educational processes favor such developments, for example, such dangers that individuals have no chance against the "know how" of the technical system, that there is a potential risk to be totally controlled, that the psychological and mental strain will even increase, and that social workers will be forced to give up the sound self-esteem of being a helpful individual, instead of just another wheel in the machinery.

Or will we merely attach new experiences to the old; will we be able to limit the jeopardies by improving and widening the expert qualifications of the officials, and finally reach the point, where we can distinguish between those fields of social work where the support of computers is sensible in the interest of all participants, and those domains, where dan-

gers would have to be or can no longer be compensated. The main issue of such considerations will be not to control and determine the officials' formation of experience too much in advance, but to support their personal abilities, to diminish their deficiencies by means of qualification and further training, and most of all, not to hope, that quality of social work could be better achieved by technical systems, because they function more "perfectly."

What indigent people more than ever need is personal devotion, the possibility to find a human self in the vis-a-vis, and orientation in an increasingly complex social reality.

Today perfectionism itself became one of the threatening factors of man, because man him/herself is not perfect and by no means unequivocal in his/her behavior and self-interpretation. To him/her the subjective argument, even if it is often unpleasant and might cause a feeling of surrender against the other people, will finally be more valuable, than the perfect and regular settlement of his/her case on the basis of legally accessible emergency characteristics by a technical system. Experiences with people are social experiences, whereas experiences with machines and technical systems rather aim at the opposite direction. They are not only inappropriate to replace social experiences, but also equipped with an exaggerated social prestige, which has to be recognized as a threat of social work and has to be abolished.

**Communication, Language, and Identity** The new information and communication technologies represent technical systems based on the processing of "characters." For their functioning they are dependent on special "languages", which have to be suitable for the technical processing of languages and the mechanism of translation from the level of natural languages to mechanical codes. These program languages are specifically structured, limiting the design of software programs constitutionally, and also their possibilities to enter into reality.

Software programs based on such "languages" control to an increasing extent the most different system processes, calculation operations, decision findings, and plannings. In their surrounding new language processing centers came into being (say: software laboratories), new language cultures (development of program languages), new accumulations of knowledge and information (data-banks), and new alphabets (f.i. sociologists without EDP-knowledge). We possibly arrived at the threshold of a linguistic-cultural rupture, the dimensions of which can almost be compared to the rupture between the oral language culture and the formation of a grammatically structured written language within the middle-European culture.

The consequences of this linguistic cultural rupture cannot be discussed in this context, their levels are multi-dimensional. But this rupture was closely related to processes of the constitution of new forms of governing and influencing society by cultural centers; it was linked to processes of controlling and educating perception and cognition, and finally lead to an innovative civilisational understanding of society in the sense of a natural scientific orientation.

It is still not clear to what kind of civilization we are now navigating—or being navigated—but we have to face its forebodings, suggestions, and mysteries, and apply all our knowledge to understand what we are doing, and try to

clarify what we are prepared to give up to achieve virtually what?

After all communicative and linguistic processes provide the fundament for the constitution of social reality. Man defines him/herself by language within his/her natural and social surrounding. Every alteration of the control of linguistic and knowledge processes influences our social order and questions former ideas about the origin and effects of knowledge, cognition, and action.

Within the field of social work communicative actions/activities form an elementary component of the entire relief. The investigation of the emergency, declarations and the joint determination of the origins, the finding of a way out, advice, and personal support is based on confident communication. But if the relations between the people who apply for help and the helpers are guided by structures thought out in advance (say: software programs) and fictitious program realities, what kind of influence will that have on the finding of the identity and the self-perception of both persons; what kind of effect will it have on the matter-of-factness of both the applicant and the helper, how will all participants react? This question to be applied to society as a whole is: how will people communicate under the conditions of an advanced, computerized society?

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At this moment we do not know what is dependent, but we are on the best way to create facts, to which we might have to surrender then.

## Final Remarks

All our considerations do, however, by no means contradict the application of the new information and communication technologies within the field of social work. To the contrary, the early consideration of jeopardizing potentials and negative effects is the prerequisite for a thorough and balanced implementation of such technologies. The only remaining issue is to define in which sectors the basic merits and strong points of this technology can be implemented most advantageously, thus creating new action space in social work. Moreover, it remains to be analyzed what kind of jeopardizing potentials could be compensated or limited by which means, and to define the point, where for ethical or other fundamental reasons the use of the technology has to be renounced.

The computerization of social work can, however, even under the most extensive evaluations and assisting processes, not be planned uninterruptedly in advance, as it will shift to modification processes of social reality, which can only be investigated profoundly by long term and interdisciplinary research work. But the discussion about the various steps of alterations should not be restricted to the most obvious, highlighted problems and the most striking results. The Muslim Nasruddin once gave a metaphoric explanation in an Arabic fairy tale: "What are you looking for?" the idler

asks the Muslim Nasruddin. "My key", replies Nasruddin. "I will help you to find it", offers the other, until he continues to ask after twenty minutes: "Where did you lose it?" Nasruddin answers: "In the corner over there." "Why are you then looking here and not there", the other, angrily shouts. "It is dark over there, here shines the lantern", smiles the Muslim.

The dark might hide what we do not want to see, but what will nevertheless catch up with mankind in the course of history. Our way into the unknown future can neither be stabilized like a concrete path nor can it be forced. The way has to be appraised step by step, and boundaries will occur over and over, where we have to evaluate the whole of the complex problems, and from where we will have to start the new search for the way. Today we permanently find ourselves at such alternatives and we should not omit to apply the same energy to the critical evaluation of the consequences of our decisions as we apply to the production and employment of new technologies.

We have to keep in mind that with the introduction of technology we design social reality and not just the flow of limited working processes. Computers change our thoughts, our language, our communication and our social interaction and by no means only the organization of work in selected administrative units. The topic of the entirety of interdependent changes has to be raised and implied into the awareness of the implications of social changes.

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*We have to keep in mind that with the introduction of technology, we design social reality and not just the flow of limited working processes.*

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I would like to finish with a remarkable quotation from Hans Jonas's book "The Principle Responsibility" which says: "The new territory of collective practice, that we entered with high technology is still no-man's-land for ethic theory." So let us make efforts to carefully cultivate this and other no-man's-lands in order to learn to understand where the social boundaries of scientific-technical regulation and designing forces lie.

### **Rule of Thumb # 1:**

When automating, expect to spend 10% of total cost on hardware, 40% of total cost on software and software development, and 50% of total cost on training and implementation.

*Source: National Science Foundation, Computers in Human Services, Vol 1 # 2, Summer 85, pg. 59.*

If you have a "rule of thumb" concerning computing and human services, send it alone to CUSSN, Box 19129, Arlington, TX 76019-0129,

## **Developing an Information Technology Center with Limited Resources by Brian W. Klepinger, Ph.D.**

Brian Klepinger is Associate Director--Program, The Colorado Trust, Denver, CO.

### **Introduction**

As human service agencies in recent years have moved rapidly to incorporate the benefits of computerization into their agency operation, so have graduate and professional schools of human services also desired to incorporate such developments into their curriculums. However, the incorporation of new courses on information technology, and especially the acquisition of hardware, software and staff to support such course work, is an expensive undertaking. This is especially true at a time when resources to support these efforts are continually shrinking. Few departments or schools in human services today are fortunate enough to secure sufficient funds from their host institutions to purchase the necessary hardware, software and staff support to initiate an in-house computer laboratory.

One such school in the United States faced this very situation five years ago. Yet this school was generally recognized as a leader in the United States in the quality and diversity of its activities in information technology applications to social work practice. How this school moved from having no in-house computers, no courses on computers, no staff or faculty expertise in the use of computers, and no budgetary resources to devote to this effort, is the focus of this paper. Presented in the form of a case history, first a description of both the university and school setting will be presented, followed by a brief depiction of the state of computerization- or rather lack of it—five years ago compared to the wide variety of information technology applications in which the School was engaged in 1988. This will be followed by a step-by-step description of activities which occurred since 1984 which led to the establishment of the Information Technology Center (ITC) within the school. Finally, the conclusion will list some of the lessons learned from this process and present a few practical suggestions to others who may also be considering the development of a computerized information technology resource but are faced with extremely limited resources.

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### **The University and School Setting**

The University is the oldest institution of higher education in what is called the "Rocky Mountain West" portion of

the United States. It is one of the few private universities in the Rocky Mountain West, which means it receives no direct government or tax support but rather is dependent upon student tuition and fees, charitable donations and proceeds from its very modest endowment. As a private university, the University is typical of many such institutions in the United States in that its financial resources are seldom sufficient to establish new undertakings beyond the maintenance of its basic academic programs. However, private universities do enjoy a certain freedom from constraint in that new undertakings do not have to be approved by any governmental body as is typical of government supported universities.

The Graduate School of Social Work at the University has been in existence over fifty-five years. With an annual enrollment of approximately 275 students, the school is a graduate program only which awards both the Masters of Social Work and Doctorate of Philosophy in Social Work degrees. As is true with its host university, the School of Social Work has extremely limited funds and a generally poor history of alumni financial support.

## The State of Computerization in the School in 1984

At the time this story begins early in 1984, it is fair to say that computerization within the school was essentially non-existent. At that time, just a little over three years ago, the School of Social Work had the following.

- One dumb terminal in the school which was hooked up to the University's mainframe computer
- Only two out of 24 faculty members who knew how to use this terminal, but who seldom did so
- One faculty member who owned his own home computer, an Apple II Plus, which was used primarily for word processing and games
- No courses or course content on the use of computers
- No school or university budget available for the purchase of hardware or software
- No faculty member knowledgeable about how best to design and introduce course content on the use of computers in the curriculum
- A general faculty attitude toward the use of computers in social work which ranged from indifference to outright hostility

What the school did have at that time were two senior faculty members who for several years had wanted to develop information technology capability within the school in terms of both classroom instruction and a hands on computer laboratory, particularly, for students in the Social Planning and Administration department with which these two faculty were affiliated. There was some limited interest on the part of a couple of other junior faculty members who wished to have greater computer capability within the school to support their research interests, but they really had not envisioned broader applications of information technology to the school's curriculum.

Thus, with no in-house computer resources and no faculty expertise on how to develop such capability, the school at that time appeared to be the least likely of candidates to develop what was to become within two to three years one

of the leading school in the United States in terms of information technology applications to human service.

## The School's information Technology Center in 1987

In 1987, the Information Technology Center (ITC) of the Graduate School of Social Work at the University was widely recognized as being on the cutting edge in the quality and diversity of its activities in information technology applications to social work practice. Although it is not the intent of this paper to describe in detail the wide range and diversity of information technology activities within the school, a brief listing of at least some of the components of the ITC may be useful in illustrating how far this school came within a very brief period of time. These include the following.

- A set of four sequence courses on various aspects of information technology as it relates to social work practice plus the opportunity for further advanced work through individual research projects and/or independent study
- An in-house computer laboratory with IBM or IBM compatible personal computers, monitors and printers at each station arranged in a relaxed and informal setting which is designed to be an attractive learning environment.
- An ITC communications center which was the site for electronic bulletin board networks; linkages between the school and university's central DEC computer system and houses the main server for the school's Local Area Network (LAN) which linked together all of the school's support staff and administrative functions.
- A combined wired classroom and new electronic broadcasting facility which was being developed under a joint project with American Telephone and Telegraph (AT&T) and had the capability to conduct computer-based audio-graphic distance learning via telephone lines with simultaneous delivery of classes originating at the University to up to fifty sites anywhere in the world.
- A complete set of continuing education courses available for human service practitioners in the local community which paralleled the information technology courses offered in the school's regular curriculum.
- Designation by the Computer Use in Social Services Network (CUSS Network) to serve as the central Software Exchange in the U.S. which included an extensive listing of available human services software and a file containing reviews of available software frequently used by human services.
- Designation by the CUSS Network to serve as a "CUSS Network" electronic bulletin board, which is a 24-hour-a-day electronic information data bank with a worldwide listing of human services related software which is available for downloading to a users personal computer.
- A designated echo node for several other national electronic bulletin boards including such self-help groups as Alcoholics Anonymous, Parents Anonymous, Child Abuse and Neglect Exchange, the Unemployed Network, and the National Network for the Handicapped called "Able-Disabled."

- A consulting and contracted resource service which provided assistance to local health and human service agencies in the design and implementation of computer applications for human services.
- A continuing research and demonstration program which directed masters and doctoral student investigations of the impact of information technology on social problems and client populations, as well as testing and demonstrating appropriate applications of information technology to support effective social work practice.
- And the last activity, an electronic bulletin board linked with a free consultation service, provided technical assistance using volunteer experts in information technology to local health and human service agencies needing help with information technology applications in their organizations.

By 1987, every support staff member of the school had been fully trained and used computers in their daily work. Over three-quarters of the faculty in the school were skilled users of computers and over half of the faculty owned their own personal computers. More than 20 percent of the faculty were qualified to teach various levels of computer-related courses within the curriculum. In short, it is no understatement whatsoever to observe that within a very brief period of time, the entire school's curriculum had been affected in one way or another by information technology applications to human services.

## The Sequence of Events in Developing an Information Technology Center

For several years, during the late 1970s and early 1980s, two senior faculty members (one of which is the author of this paper) had long desired to have available course work in the use of computers and a hands-on computer laboratory experience for students. These two faculty shared the responsibility for the curriculum of the Social Planning and Administration Department.

Computer competency would be particularly useful for those students preparing for careers in social welfare planning and the administration of human services. Yet, professional training in the use of computers has hardly begun to be incorporated into social work programs. At that time, less than a handful of schools in the United States had initiated any type of courses on the computer in their curricula and only one graduate school of social work in the United States had in-house computer equipment of its own to support such course work. It was the belief of these two faculty members that those schools of social work which could respond to the recent developments in information technology by initiating computer courses and developing a computer laboratory would not only better prepare their graduates for changing practice demands, but the school itself would find its program more attractive and competitive in recruiting new applicants.

By the beginning of the 1983-84 academic year, these two faculty members began to seriously consider how best to accomplish their dream of developing computer capability within the school's program. It quickly became obvious that there were two critical ingredients necessary for the establishment of the program: first, the need to obtain the neces-

sary financial resources to enable the school to acquire the hardware and software sufficient to support such a program; second, the need to obtain the curriculum components of such a program. Neither factor by itself would be sufficient—both components would have to be in place to provide a reasonable chance for the development of the desired curriculum component in computer applications to human services. The two faculty members had given considerable thought to the development of financial resources and had some beginning ideas on how to proceed in this direction.

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However, they felt that they could not proceed with resource development without having a clear idea as to how the necessary faculty expertise could be obtained. The school did not have sufficient budgetary resources to create a new faculty position for a person with computer expertise let alone the necessary resources for hardware or software acquisition. Neither did it appear feasible for any current faculty member to develop the expertise within a reasonable period of time and certainly not to a level of expertise sufficient to know how to design and implement a computer-related curriculum component.

At the end of the Autumn term during this academic year, though, the dean of the school announced that the school would begin advertising and recruiting for a recently vacated faculty position, the major responsibility of which was the teaching of the sequence of research courses within the doctoral program. With this announcement came the first glimmer of an idea on how to address the need for a faculty member with computer expertise. The author of this paper immediately thought of a colleague whom he had known as a fellow student in the doctoral program at another university, who would not only be qualified for the current faculty vacancy but who was also recognized as one of the small handful of social workers leading the development of computer applications to human services. If that colleague, whom I shall call Dr. L, could somehow be attracted to the University, and his appointment to the school supported by fellow faculty members, one of the two critical ingredients would then be in place. There was no certainty whether even this first step could be accomplished let alone the acquisition of the necessary hardware and software resources needed. However, with this idea as to a possible means to accomplish the goal, the following sequence of events took place.

**January, 1984:** The author located Dr. L teaching at another university and called to inform him of both the current faculty vacancy as well as his desire to establish a computer-based teaching resource within the school. During that conversation, the author extended a personal promise to Dr. L that if he would apply for the position, was

selected, and decided to come to the University, the author would personally pledge to have sufficient resources in hand at the time of his arrival to establish a modest but fully operational computer laboratory and a beginning set of courses approved for incorporating information technology content within the curriculum. Dr. L agreed to at least consider the possibility and requested that information on the vacant faculty position be sent to him.

One part of this promise was not as rash as it might appear at first glance--that of establishing the necessary courses on information technology within the school. The author was at that time both chairman of the Social Planning and Administration Department and chairman of the Curriculum Committee for the school. His colleague and "co-conspirator" in this effort was then also assistant dean of the school. Thus, together they did have the capability of exerting the necessary influence for the establishment of new course and course content. However, the second part of that promise, to obtain the necessary resources to establish a computer laboratory, was in retrospect a rather rash promise indeed. The two faculty members though, were confident in their ability to be able in some manner to obtain the necessary resources for the needed hardware and software, and they began immediately to plan on how this goal might be accomplished should Dr. L decide to apply and be successful in obtaining the vacant faculty position.

**February--March, 1984:** By late January 1984 Dr. L had made formal application for the faculty position. During February his application along with many others was reviewed by a faculty screening committee. Dr. L's qualifications for teaching doctoral level research were excellent and he was selected as one of three finalists for that position. During March, Dr. L was invited to campus for a visit. During this visit, as is expected of all faculty applicants, Dr. L was requested to present a paper to the faculty on a topic of his own choice. Not surprisingly, and with the full collaboration of the two faculty proponents of the project, the subject of the paper focused on the recent developments of information technology in social work practice and the potential of its uses in all phases of social work. Although the faculty found his topic interesting and intriguing, Dr. L's expertise in the application of computers to social work practice was still considered only secondary to his research qualifications. However, it quickly became evident that he was the leading candidate for the vacant position. With this positive response, the two faculty members quickly stepped up the tempo of their planning on how to obtain the necessary resources for the computer laboratory. In late March of 1984, Dr. L was offered the faculty position, and based on the promise extended to him earlier for the development of a new computer laboratory, accepted the position. The first critical ingredient was now in place.

**April, 1984:** The second major challenge was the acquisition of sufficient resources to purchase the necessary hardware and software. There was no hope whatsoever of either the school or the university having sufficient resources to devote to this kind of undertaking. Neither was it realistic for the school to submit a grant proposal to the Federal government or a private foundation for a grant to acquire the resources, since the time required for such a process would be six to nine months, and the school did not then have a

track record in this area of endeavor. Therefore, it was obvious that an independent fund raising effort was really the only course of action and that must be accomplished within approximately a four month period. Yet for a fund raising effort to be successful, there needed to be an "up front" initial donation of a large enough amount in order to hold out the promise of a successful fund drive. The two faculty proponents were able to get two alumni to join with them and each agreed to donate their own money in the form of a combined challenge grant to the school. Each of the four individuals promised to donate \$1,000 apiece for a total of \$4,000, contingent upon:

- (a) This amount of \$4,000 to be matched on a 3-for-1 basis by other faculty members, staff, alumni and friends of the school. If successful, this would generate an additional \$12,000 which when combined with the original challenge grant would result in \$16,000--one half of the amount needed.
- (b) The dean of the school was then challenged that if the \$16,000 could be raised by August 31 of that year, he would then match that amount from a recently received bequest to the school which had not yet been assigned for specific programs. This would result in a total amount of \$32,000--the figure agreed upon with Dr. L as the amount necessary to develop an adequate beginning for a computer laboratory.

**July--August, 1984:** By July, the response to the challenge grant was promising enough that the Dean was persuaded to proceed with the remodeling of the facility which had been designated as the laboratory space. Upon Dr. L's arrival in July, specifications for the hardware and software were prepared, vendors contacted to obtain the best prices available, and detailed designs completed for the configuration of the laboratory. It quickly became apparent that after purchasing the necessary hardware and software, there would be few funds remaining for other furnishings in the laboratory. The author began a campus-wide hunt for furniture which could be adapted for use in the laboratory by prowling through university storage warehouses, vacant dormitory rooms, and classrooms. A number of excess student study desks were found which could be adapted easily to hold the central processing unit, keyboard, monitor and printer for each computer station. Other items, such as storage cabinets, chalkless blackboards, tables, chairs, and other necessary equipment were also located and permission obtained to use them in the computer laboratory.

From the beginning, the goal was to create a learning environment which would be inviting and non-threatening to students and faculty when confronted with this "new" technology. Thus, computers were arranged in the laboratory in pods of four, scattered throughout the room, with attractive carpeting, colorful drapes and pictures, and the liberal use of hanging and potted plants. Many of these items were donated by individual faculty member who were beginning to become enthusiastic about this new facility.

By mid-August, approximately a month before students were scheduled to return to campus, Dr. L established two sets of training courses, one for the support staff and one for the faculty. In a relaxed, easy-going manner, he began to introduce both groups to the use of computers, with training materials that were designed to be fun and non-intimidating. Also by this time, the two proponents of the initiative had

revised the course requirements for students in the Social Planning and Administration Department which now required that all students within that department take the first two courses of the new course sequence on computer use in human services.

**September--October, 1984:** When students arrived on campus in September, the computer facility had been remodeled and furnished, the hardware and software were in place, and the initial courses scheduled. By late September, Dr. L had agreed to develop at no fee a new software program for a local senior services agency--a computerized "elderly housing hotline" which matched senior citizens in need of affordable housing with appropriate housing in their preferred location in the city. This effort was particularly useful in calling the attention of the broader social service community to the potential and benefits of the new Information Technology Center and helped pave the way for future consultation and service contracts.

**November--December, 1984:** The first issue of the Information Technology Center Newsletter was published and sent to all alumni of the school, representatives of local agencies and other interested individuals. Follow-up letters were sent to those who had made pledges during the phone-a-thon in October. A letter was also sent to all the graduates of the Social Planning and Administration Department over the past fifteen years bringing them up to date on the developments of the Information Technology Center and appealing for their support. These particular graduates were seen as being the most likely to positively respond to the potential contributions of computerization to human services.

By the end of November--the end of the three-month extension period for the challenge grant--a total of \$13,000 had been pledged against the goal of \$1,000, which slightly exceeded the target amount required. By the end of December, all but \$639 of the total \$16,471 which had been pledged had been paid, and the balance was received over the following two months. With the matching amount of \$16,000 from the dean's office, a grand total of \$32,471 had been raised. The first course in the series of three new courses had been completed during the Fall term, and there was a growing interest on the part of students to sign up for a repeat of the introductory course during the upcoming Winter term. The second level course in the series would also be initiated for those students who had completed the introductory course during the Fall term.

**January--March, 1985:** With increased demand for student and faculty usage, there arose a need to expand the hours of access, to monitor the appropriate use of the hardware, and to insure the security of software. It was necessary that the laboratory be staffed. Given the initial success of the computer laboratory, it was not too difficult to obtain the dean's agreement to assign three graduate teaching assistants to help staff the laboratory. Arrangements were made to have the laboratory open most evenings during the week and for significant periods of time on weekends.

During this period, efforts were also made to contact software publishing houses to explore the possibility of ac-

quiring software at reduced prices. Since this was one of the first endeavors of its kind and software houses had not yet been approached by schools of social work, the response was generally positive. The ITC was able to acquire sufficient copies of several major software packages for each personal computer station. For instance, the ITC received from Ashton-Tate Software Company 16 copies each of their D-Base II Program (later upgraded to D-Base III Plus) and 16 copies of Framework II, at a cost of 10 percent of the retail price.

During this Winter, efforts were made to publicize the existence of the ITC through a variety of tours of the laboratory. Dr. L was interviewed by several publications, and invited to deliver a number of talks, both local and national. At each of these talks he discussed the ITC and the pioneering work beginning to develop at the University School of Social Work. By March of 1985, the first set of continuing education courses were started. The response was overwhelming, requiring multiple sessions of the introductory course to be offered during the evenings to allow working professionals to register for these courses.

**April--June, 1985:** Student enrollment continued to increase in the computer courses and by Spring term, the third level course in the three course sequence was offered for the first time, the second level course was fully subscribed, and two sections of the first level course were being taught. In April, the ITC received its first of many visitors from abroad. In May, a formal grand opening of the ITC was held. In June, the second edition of the ITC newsletter was published listing the accomplishments to date of the ITC, outlining plans for the future, and giving prominent recognition to all those who had contributed to the development of the ITC. Included in this issue were pictures of the laboratory, and a number of short vignettes on the experience of specific students in utilizing their new computer skills in their field internship.

**Summer and Fall 1985:** As the ITC moved into its second year of operation, the momentum of its development and the diversity of its activities mushroomed. Student demand for courses increased rapidly. More and more faculty chose to sit in on courses and develop computer skills. Three faculty members developed the capability to share the work load in teaching at least the introductory level course during the forthcoming academic year. Faculty and students associated with the ITC received an increasing number of requests to serve as consultants to local human service agencies. Students and faculty began to work on the development of grant proposals requesting support for future expansion of the work of the ITC. A small grant was received from a local foundation, enabling the ITC to acquire an IBM AT computer with modem and dedicated telephone line. With this capability, the ITC became a node on the Computer Use in Social Services Network (CUSSNET) which serves as the software clearinghouse for the CUSS Network and provides 24-hour-a-day electronic access from across the United States to a data bank listing all known software which might in any way relate to health and human service. Near the end of 1985, the computer Use in Social Services Network's combined Fall/Winter journal edition published the Human Services Software Directory, a product of the school's ITC.

The developments which followed through the remainder of 1985, during 1986, and the first half of 1987 are simply too numerous to list in any detail. Some of these achievements were noted earlier in this paper. Suffice it to say that the ITC of the School of Social Work has continued to grow and flourish, constantly expanding its activities and has now become an integral part of the school and its curriculum. As one example, during the past 1986-87 academic year, the faculty of the school voted to incorporate the beginning course, "Introduction to Information Technology for Social Work" as a required part of the curriculum for all students entering the school.

### Insights Gleaned from this Experience

In looking back over the past years since the first effort began to establish an Information Technology Center within the School of Social Work, there are a number of things which were learned which may be helpful to others contemplating a similar undertaking. The most fundamental of these lessons is reflected in a favorite saying of a well-known business professor in the United States, George Odiorne. He has noted that "things that do not change, tend to remain the same"; and its corollary, "If you want something different, you've got to do something different." Basically, simply wishing for something does not make it happen--one must be willing to act. Thus, in retrospect the most important step we took to bring about the development of an Information Technology Center was our very first step: the decision to find a way to recruit the expertise needed on our faculty, and the fund raising to acquire the necessary resources. Once we had moved beyond the stage of wishful thinking to taking specific action--even with uncertainty as to whether or not these actions would be successful--the most important step had been taken. Beyond this critical first step, other more specific lessons to be learned from this effort included the following:

1. **Leadership is critical.** Those who would give leadership to this type of effort certainly do not need to be computer experts themselves, but total commitment to the idea proposed is necessary. Ideally, such leaders would be in a position to exert some degree of influence on the system, but at a minimum they must be prepared to devote sufficient time, energy and even some of their own resources if necessary, to accomplish the desired goal.

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2. In addition to the political and resource development leadership necessary, there must also be available the technical and intellectual leadership required, not only with respect to computer expertise per se, but even more importantly with respect to being a credible professional within the human services field able to command respect from other professionals and able to

conceptually integrate information technology with professional social work practice.

3. In developing a computer resource within this type of organization, it is important from the very beginning to **appeal to all segments of the organization** and demonstrate how computerization can benefit everyone. Do not focus on computers as number crunchers or the benefits of computers for researchers or managers. This use of computers is already well acknowledged. Rather, it is critical to be able to focus on computers as information management tools that can be seen as a critical social work function, to relate computers to current issues of immediate concern to the social work profession, and to demonstrate how such tools may aid and extend professional practice and service delivery.

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*Do not focus on computers as number crunchers or the benefits of computers for researchers or managers. ...focus on computers as information management tools ...demonstrate how such tools may aid and extend professional practice and service delivery.*

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4. With respect to resource development, it is important to **develop a specific strategy to obtain the necessary financial resources** in a planned, detailed manner with specific time lines to be followed. Whenever possible, try to look for ways to leverage the financial resources obtained through such devices as challenge or matching grants from others. Additionally, look for ways to make raising money fun for those who participate, through the use of competition and contests, awarding of prizes and other devices. Do not overlook ways in which to get others involved, be they volunteers or students who may not have a great deal of knowledge or expertise in information technology. Once set in motion, it is important to keep the fund raising effort alive through follow-up events scheduled at periodic interval to help sustain the effort.
5. **Many resources which normally are purchased with hard cash can be obtained through other mechanisms.** Be creative in scrounging for furniture and equipment which can be adopted for our uses; approach vendors of hardware or software who may be convinced to support your effort through discounts or free donation; or arrange for staff assistance through the assignment of student teaching or research assistants.
6. **Publicly recognize and reward those who have supported you.** Unless they specifically request anonymity, be sure to list their name as supporter and give them the recognition they deserve. Additionally, try to give each contributor something in return for their donation, whether this is simply a listing of their name in a publication, inclusion of their name on a plaque mounted in a prominent place, or the offer of special benefits such as being able to take continuing education courses at a free or reduced rate. Also, continue to communicate frequently with supporters. Let them know how their donations are helping the effort and what has been accomplished to date. Those contribu-

tors who feel that their contributions have been used wisely are most likely to be repeat donors in the future.

7. **Publicize your results.** Keep the information flowing in interesting ways, through pictures, real life experience or other means. Nothing breeds success like success; but if you do not "toot your own horn," no one else will. Part of gaining such visibility in the community may require the provision of free consultation and service initially. This serves not only to give the facility needed credibility, but it also may result in future requests for paid consultation and contractual arrangements.
8. **Share the credit.** This is particularly important for those individuals in a position of formal leadership, such as an executive, director or dean, even though they may have been somewhat skeptical or resistant initially. Let them appear to have been in full support from the very beginning and let them share in the recognition of accomplishments. This can be important if you wish to be able to rely upon them for support and resources in the future.
9. When moving into an area as potentially threatening to many human service professionals as work with computers often is, make the setting and activities as attractive, exciting, and appealing as possible. This may involve making the physical setting as "home like" and comfortable as possible, as well as designing nonthreatening courses that are both fun and challenging.
10. **Don't be shy about approaching vendors, contributors, or others** in requesting support for your endeavor. Try to be creative in showing how they too can benefit from participation in your project. Tie your request to a specific business by showing how your activities will parallel or be viewed as an extension of their business interests. This was the strategy used in obtaining the grant for the hardware necessary to set up the electronic telecommunication capacity of the Information Technology Center, which was obtained from a public broadcasting foundation.
11. **Don't try to accomplish everything at once.** When the effort to develop an ITC at the University was first begun, no one would have envisioned the range and diversity of activities which are in operation today. Rather, set out reasonable goals and time lines and work to the accomplishment of each objective one step at a time.

Lest the above sound like a fairy tale in which everything went right, it is important to acknowledge that in retrospect a few things were overlooked, and there were ways in which this effort could have been improved. In three areas specifically this was apparent:

1. There was no plan for the development of a maintenance and repair budget for the hardware acquired. As use of the computer laboratory increased, it was inevitable that certain components would fail and that disk drives would have to be replaced or printers repaired. Because the Information Technology Center was developing very rapidly, almost all new funds were earmarked for the acquisition and expansion of new equipment and software. Therefore, there was often a setback to the time lines established for new endeavors. Thus, it is critical to plan from the beginning for a separate budget to be reserved for these types of needs and emergencies.
2. Too much responsibility was assumed by the initial two faculty proponents of this effort, so that when circum-

stances arose that removed them from the continued development of the ITC, there were no other individuals immediately available to step into the role they had fulfilled. Dr. L, as director of the Information Technology Center, was already swamped in his work of developing and teaching courses, supervising masters and doctoral student projects and responding to requests for assistance from the local community. He simply did not have time, nor was it necessarily his appropriate role, to also lead in the necessary support activities for the Information Technology Center. Therefore, when one of the two proponents moved into the position of deanship and the other left the university, there was for a period of time a void of leadership to continue development activities on behalf of the center. More effort should have been expended during the early phases to involve other people in the fund raising and support activities on behalf of the ITC so that they could later take over when needed.

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3. Finally, and somewhat related to the point made above, in spite of the success of the original fund raising efforts during the first year of operation, continued fund raising efforts were not carried out on a timely and consistent basis as they might have been. During the second year, more effort was put into the incorporation of the ITC within the school's curriculum, and once the original hardware and software for the laboratory had been acquired, there was a lapse in efforts for continued fund raising. This lack was corrected by the third year of operation, when again a major effort was made to conduct a phone-a-thon fund raising campaign and greater efforts were expended in the preparation of grant proposals. However, if the fund raising effort had been sustained at the same level as originally developed, there would have been fewer difficulties later on in obtaining new resources when needed or being able to have sufficient resources necessary for such things as the repair and maintenance budget mentioned above.

Although it is recognized that no two situations are ever the same, it is hoped that by sharing this experience, others who face a similar shortage of resources and lack of institutional support will be encouraged not to give up their dreams. Such accomplishments are not easy, but they are possible. As George Odiorn said, "If you want something different, you've got to do something different."

### **Rule of Thumb # 2**

**Always choose software before hardware.**

## Implementing Information Systems for Services to Homeless Populations by Larry W. Kreuger, Ph.D., John J. Stretch, Ph.D. & Alice K. Johnson, MSW.

Larry W. Kreuger is Assistant Professor, School of Social Work, University of Missouri-Columbia. He teaches research and social policy courses in the graduate social work program at the University of Missouri. He designed the computerized data bases for delivery of services to homeless populations in St. Louis which provided data described in this paper. He has presented several papers concerning the homeless at national meetings. He has published in several professional journals including *Social Work*, *Computers in Human Services*, *Early Child Development and Care*, *Journal of Independent Practice*, and *Journal of Compliance in Health Care*.

John J. Stretch is Professor and Director of the Doctoral Program, School of Social Service, Saint Louis University, St. Louis, MO. He teaches policy, evaluation research, and programming, planning, and budgeting in the graduate and doctoral programs. He has directed several evaluation projects on the homeless and his conceptualization of the Five Stage Model for Housing and Follow Up Services to the Homeless has been recognized in several national forums. He has published in *Social Work*, *Administration in Social Work*, *Community Mental Health Journal*, *Child Welfare*, *Social Casework*, and numerous other journals.

Alice K. Johnson is a doctoral candidate in the George Warren Brown School of Social Work, Washington University, St. Louis, MO. She teaches a course in social policy at the University of Missouri-St. Louis. She has been involved in several evaluation projects on homelessness and low income urban families and is currently completing her dissertation on the problems of homeless families. She has presented papers on homelessness at major national conferences.

The authors wish to acknowledge the cooperation and support of A. Michael Klein and Major Mary Boyert of the Social Services Department of the Midland Division of the Salvation Army, St. Louis; to the Health Care for the Homeless Coalition of Greater St. Louis and its Director, Judy Weilepp; and to the St. Louis City Department of Human Services and its director, Rose Terranova.

### Information Systems Context

There has been increased attention recently in the United States in the last five years to the rising numbers and the plight of homeless individuals and families<sup>1</sup>. Private and public efforts to deliver services to both traditionally defined homeless populations, and to a more recent phenomenon of what have heretofore been stable and intact families who have recently become homeless, have engaged the policy and service attention of an increasingly wide spectrum of political and professional audiences. Such attention inevitably raises questions about the scope and effectiveness of interventive strategies for helping such an ever-widening group of homeless persons. As human services agencies seek alternatives to service delivery for these new homeless, the issue of additional funding for increased services inevitably arises. Funding sources, whether public or private, often raise questions which demand answers based upon more complete and accurate data. As human services providers develop alterna-

tive service delivery models for these newly emerging and diverse homeless populations, added pressures for greater accountability inevitably lead to the need to develop sounder methods for documenting need, tracking services and evaluating outcomes. Thus the role of developing responsive data bases for both public policy and for service delivery and managerial purposes arises. Implementing management information systems in service to homeless populations has moved, in the author's judgment, from a nicety to a necessity.

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Illustrative of both the need and desire for better data in service to the homeless reported here are two recently developed data bases on homeless populations in St. Louis, Missouri. These data serve well as a context and setting in which to discuss information needs which dimension the vulnerabilities of homeless populations and which document and assess services designed for their varied and complex needs. In this paper the authors address a number of policy and programmatic issues in service delivery and they discuss the relevant implications for both public and private policy makers charged at local, state and federal levels responding to the increase in diverse homeless populations in the United States.

One automated data base which provides such information has been fully operational for 36 months in the Health Care for the Homeless Coalition of Greater St. Louis. The St. Louis Health Care for the Homeless Coalition provides on-site medical and social work services to homeless individuals and families through a cooperative arrangement with neighborhood health centers. Data generated in this system have been used for medical case management of the homeless in shelters; for documentation of the health and social needs of homeless individuals and families; and for tracking health outcomes for various Health Care for the Homeless program activities. A secondary use of these data has been to provide a basis for accountability to several external funding sources who support the program. The data have also been utilized as the basis for a number of meetings of professional associations in the United States concerned with the distribution and response to the homeless. The second management information described in this paper is the United Homeless Database System (UHDS), a comprehensive information and retrieval program developed by the authors for the Emergency Lodge of the Midland Division of the Salvation Army, St. Louis, MO. U.H.D.S. functions as a database management system to serve various internal and external program information demands of the St. Louis Salvation Army Emergency Lodge. UHDS 1.0 is a relational data based program written via the R:BASE System 5.0

programming language. UHDS V 1.0 allows for the creation, alteration, and implementation of complex data entry, storage, retrieval, and report generation for over 450 variables of interest in the Salvation Army Emergency Lodge programs. UHDS 1.0 uses five basic databases, called tables, to store information relative to Emergency Lodge functions. Table 1 stores demographic information of Lodge residents. Table 2 stores information about services provided to Lodge residents. Table 3 stores demographic information about Transitional Housing clients. Table 4 stores information about services provided to Transitional Housing clients. Table 5 stores information about follow up contacts with Lodge and Transitional Housing clients.

Each of the five basic tables is linked together so that information can be retrieved, sorted, added together or combined across any or all of the separate tables. This relational capability allows the user to simultaneously manage large amounts of information with only minimal attention to internal software program operation. Each of these tables, in turn, is served by one or more data entry screens or "forms", which guide the user to enter, update, and edit information in a manner which reflects the normal flow of office paperwork. A "browse" feature allows the user to review information in column format. Finally, UHDS generates 23 pre-defined reports which derive their information from one or more of the five basic data tables.

UHDS 1.0 can be utilized in a number of different ways. First, UHDS 1.0 is a self-contained data management system. UHDS opens with a Main Menu from which the user selects options for data Entry, Editing and Updating, Browsing, and Reporting. Each option, in turn, branches to one of 15 submenus which further define data management activities. Second, UHDS 1.0 is a user friendly Database system which allows the initiated user to enter, edit, update, and alter the basic data storage and retrieval system and to perform complex quantitative analyses "on the fly." That is, UHDS 1.0, through R:BASE natural language programming, allows the user to enter common English phrases to perform analytic tasks. For example, the user need only enter the command: "compute average agefem1 from followup" in order to obtain the mean age of females in the Emergency Lodge Followup program. Dynamic and context sensitive Help is available from R:BASE at any time by simply typing HELP. The user is provided with context sensitive examples of possible program options at any point in the natural language program.

Third, UHDS 1.0, through R:BASE System 5, is simple to alter. The knowledgeable user can change or add menu selections, reroute program tasks, and otherwise manipulate the original UHDS 1.0 program to reflect changes in the Salvation Army Lodge structure and function. The flexibility of UHDS 1.0, using R:BASE System 5, is one of its greatest strengths. Only minimal knowledge of programming is required. Taken together, both of these automated data base information systems provide current support for the main thesis of this paper, namely, that human services program providers, evaluators, and public and private policy stakeholders comprise multiple audiences whose information needs can be well served by utilizing newly emerging information technologies specifically designed to meet their information, management, and accountability concerns. To be of maximum service, such designed data bases must combine

rigorous standards for empirical data development and must tailor analysis with a view toward program and policy formation, implementation, and evaluation.

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*Taken together, both of these automated data base information systems provide current support for the main thesis of this paper, namely, that human services program providers, evaluators, and public and private policy stakeholders comprise multiple audiences whose information needs can be well served by utilizing newly emerging information technologies specifically designed to meet their information, management, and accountability concerns.*

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## Information Systems Applied to The Phenomena of Homelessness: Scope, Etiology and Conditions

Numerous definitions available in the literature suggest that homeless persons may be identified as those individuals and families who seek temporary residence in shelters for the homeless,<sup>2</sup> those whose daily existence includes non-residential lifestyles and who spend a considerable amount of time sleeping out of doors,<sup>3</sup> runaways from abusive or intolerable conditions at home,<sup>4</sup> deinstitutionalized mentally ill or emotionally outside the norm,<sup>5</sup> substance abusers,<sup>6</sup> highly mobile transients,<sup>7</sup> and recent immigrants.<sup>8</sup> An emerging typology which captures some of the relevant diversity surrounding homelessness in the United States is depicted in Figure 1.

Figure 1. Diversity of Homeless Populations in the U.S.

1. Stable uprooted families (lost residence)
2. Unstable families (downwardly mobile)
3. Abused women and children
4. Ethanol Abusers
5. Deinstitutionalized former patients
6. Heavy drug users
7. Non-local transients
8. Runaway youth

The extent of homelessness in the U.S. has been a matter of considerable public debate and estimates of the phenomenon vary from a conservative three hundred thousand to over three million.<sup>9</sup> Similar debates occur at the local level for service providers trying to assess the extent of homelessness.<sup>10</sup> In St. Louis, for example, a mayor's task force conservatively estimated 800 - 1000 homeless, while a recent survey conducted by the Missouri Task Force on Survival (1985) estimated over 10,000 homeless.<sup>11</sup> Methodological problems in the valid enumeration of homeless has received increased attention not addressed in this paper.<sup>12</sup>

One of the major reasons for wide disparity in the enumeration of the homeless has centered on a major conceptual issue facing human service managers and researchers. A significant conceptual problem is the lack of a sound

theoretical base which would serve as a guide in both the collection and interpretation of data. Unraveling the conceptual confusion would also aid public policy to focus not only on tertiary and secondary program measures but would suggest areas where prevention is possible; this in turn might provide a data context to engage public policy and program alternatives for better addressing a growing national issue. Thus accurate and timely data on homeless populations should serve to help fill not only a conceptual void but would aid policy makers, administrators, and program developers to better utilize scarce community resources.

One of the difficult problems in the formation and implementation of programs for the homeless derives from the lifestyles of homeless persons themselves and the consequent variability of their personal, familial, economic, and social conditions.

Homeless individuals and homeless families comprise a vulnerable population for several very specific reasons. In the United States homeless individuals and families:

- are often not eligible for existing services, especially for those services which require a permanent address;
- may desire and maintain anonymity and balk at the opportunity to receive services which they perceive as compromising this desired isolation;
- experience differing degrees of geographic mobility;
- suffer from incomplete social competencies such as illiteracy and emotional instability;
- exhibit unmet dependency needs surrounding such fundamental issues as basic survival (many of the homeless have no food, little to no clothing, lack shelter, and their life on the street makes them a high risk for safety);
- experience uprootedness which has its most stark realization on homeless children who are especially dependent upon others for care and support. Very early empirical studies show children of the homeless to suffer as yet undocumented long term effects associated with uprootedness and inconsistencies in basic need fulfillment.<sup>13</sup> Unfortunately these children are at the same time understandably deprived of consistent parental support;
- suffer from chronic illness and other acute health care episodes, which further exacerbates their already vulnerable status.

Figure 2. Special problems of Vulnerability Among the Homeless

1. Eligibility/Access
2. Anonymity
3. Mobility
4. Competency
5. Dependency
6. Needs of Children
7. Health

Each of these problems are addressed in order to further specify the implementation of information systems in service to vulnerable homeless populations:

**Eligibility & Access to Human Services** Homeless individuals confront barriers to initial and follow up care from human services agencies for several reasons: (1) services are not always readily available in central cities where homeless are concentrated; (2) even when services are available, homeless individuals may not be aware of them; (3) available services are not always accessible to those who need them due to physical mobility limitations and lack

of transportation; (4) available and accessible services are not always acceptable alternatives for homeless individuals who may mistrust traditional service providers.

One indication of the difficulty homeless persons have in acquiring basic survival services is reflected in St. Louis data on the question asked of persons awaiting medical care from a Health Care for the Homeless Coalition's medical team: "How long has it been since you last saw a physician?"

Table 1. Amount of Time Since Last Contact with a Physician Health Care for the Homeless Coalition of Greater St. Louis

Time	Count	Percent
0 - 1 month	105	18.82%
2 - 3 months	78	13.98%
4 - 5 months	33	5.91%
6 - 11 months	49	8.78%
12 months	+ 293	52.51%
Total	558	100.00%

Barriers to acquisition of services such as medical care make it difficult for human services providers to assess the effectiveness of their services. It has been the authors' experience that key information about such matters as compliance with recommended services, or success of referrals, is often of questionable reliability or missing altogether.

Another indication of degree of access to services is found in the same program in answers to a question of how many nights homeless persons had spent "out of doors" within a 30 day period.

Table 2. Number of Nights Within Last Month Spent "Out of Doors" Health Care for the Homeless Coalition of Greater St. Louis

	Count	Percent
none	230	60.21%
1 - 6	76	19.90%
7 - 11	25	6.54%
12 - 16	15	3.93%
17 - 21	9	2.36%
22 - 26	5	1.31%
27 or more	22	5.76%
Total	382	100.00%

Forty percent report spending more than one night sleeping out of doors. These data suggest either an absence of shelter space or an unwillingness to make use of existing services for homeless persons. In either case, barriers to availability of services present a fundamental information void to service providers. Automated information management systems provide one opportunity to fill such information voids in order to better serve and assess services for homeless populations.

**Anonymity:** Due to a variety of factors ranging from those who may desire isolation from criminal justice systems, to those whose anonymity may be a function of more personal choices, to those who suffer from emotional conditions which prevent effective assimilation into a more normal community, a certain number of homeless persons shy away from human service agencies and wait until an emergency to seek assistance. Whatever causal factors may be involved in urban isolation, persons desiring anonymity

make the tracking of services to the homeless suspect on validity grounds. In addition, this condition exacerbates efforts to assess the effectiveness of service delivery as follow up and outcome measures are difficult to develop for persons who desire an anonymous lifestyle. For example, some homeless persons in the St. Louis Health Care for the Homeless project used an alias. In addition, homeless persons face difficult choices in deciding how much information about self should be shared with human service providers, and indeed, whether to cooperate fully in decisions about treatment and intervention. A large amount of missing data in the St. Louis Health Care for the Homeless tracking effort may be indicative of this general problem. The logic of accountability, on the other hand, requires accurate identification of program recipients and the anonymity desired by some homeless persons is patently antithetical to assessment via follow up and after care. Those who manage information management systems, therefore, must pay special attention to potential for deliberate distortion in reporting due to the desire for anonymity among some of the homeless.

**Mobility:** Homeless persons may be transient individuals who are rather consistently on the move within an inter-urban network. They may be more permanent residents of a local community, or they may be temporarily without a home and desiring a quick solution to a short term problem. Mobility, like anonymity, may be a function of choice on the part of homeless persons. That is, some people are homeless because circumstances facilitate their transition to a homeless lifestyle. Homeless substance abusers are an example of such a group. Some homeless, on the other hand, are temporarily without a home due to loss of residence because of fire, eviction, spouse or child abuse, or there may be more benign cases of out-of-town indigent persons waiting for local medical care.

One indication of mobility is suggested by St. Louis HCH data. A little over one third of the homeless persons screened by the St. Louis Health Care for the Homeless program indicate that they have resided in St. Louis for less than one year. Over 50 percent, on the other hand, indicate living in St. Louis for more than 6 years.

Table 3. Number of Months Living in St. Louis Health Care for the Homeless Coalition of Greater St. Louis

	Count	Percent
0 - 12	179	35.59%
13 - 24	22	4.37%
25 - 36	15	2.98%
37 - 48	3	0.6%
49 - 60	7	1.39%
60 - 72	10	1.99%
73 +	267	53.08%
Total	503	100.00%

The bimodal distribution of the number of months homeless persons report living in St. Louis suggests that geographic movement and transition, for at least some homeless persons, plays an important role in their lifestyles. Management information collected by the two programs for the homeless discussed in this paper indicate the influence of mobility for the homeless.

**Competency:** Literature on the mental health of homeless persons indicates that the emotional condition of homeless individuals may be both a direct cause and a confounding factor in the homeless condition.<sup>14</sup> In St. Louis, 17.66 percent of screened homeless persons were assessed as having a "psychiatric condition" as a principle diagnosis during a physical exam by the Health Care for the Homeless on-site medical team. Indications of psychiatric conditions were higher, however, when homeless persons were asked about prior psychiatric hospitalization (23.56%) and whether they had been an outpatient in a psychiatric clinic (28.57%):

Table 4. Prior Psychiatric Hospitalization and Psychiatric Outpatient Status (within last 5 years) Health Care for the Homeless Coalition of Greater St. Louis

Outpatient?	Prior Psych. Hospitalization?			
	No	Yes	Total	Percent
No	265	20	285	71.43%
Yes	40	74	114	28.57%
Total	305	94	399	100.00%
	(76.44%) (23.56%)			
	Chi Square = 151.55, df = 1, p .001			

While the relation of psychiatric conditions to homelessness is not straightforward, it appears to be related to the length of time homeless individuals claim to be without a residence, and the amount of time living in a shelter. The average number of months without residence for those indicating both prior psychiatric hospitalization and psychiatric outpatient status is over two and one half years, compared to approximately 15 months without residence for those indicating no hospitalization or outpatient status. Likewise, those who indicate prior hospitalization and prior outpatient status claim length of shelter residence for a period almost twice as long as those without hospitalization/outpatient status:

Another component of competency is the problem of literacy. There are no studies which document the extent of illiteracy among homeless populations, but studies of low income and minority groups would suggest that many are functionally illiterate.<sup>15</sup> Functional illiteracy exacerbates not only the chances for upward mobility but also accounts for problems collecting accurate information when homeless individuals are the major source of data.

**Dependency:** Homeless persons may be more or less removed from family and other locally available primary groups which normally function as a source of comfort and support. As Table 5 indicates, a large number of callers to the Homeless Services Network in St. Louis were single females with children.

Homeless single females with children suffer not only from the burdens of single parent family life, but are additionally hampered in seeking solutions to their homeless condition by the presence of small children.

### Rule of Thumb # 3

You can tell the pioneers by the arrows in their backs

Table 5. Family Composition Emergency Lodge, Midland Division of the Salvation Army, . St. Louis

	Count	Percent
FEMALE	13	11 %
MALE	0	0 %
FEMALE/ CHILDREN	93	78 %
MALE/ CHILDREN	1	1 %
COUPLE	3	3 %
COUPLE/ CHILDREN	9	8 %
EXTENDED FAMILY	0	0 %
OTHER	0	0 %
Total	119	100 %

**Homeless Children:** The health of homeless children is undoubtedly an obstacle to successful resolution of the problem of homelessness for families. In the St. Louis HCH program, the most common diagnosis is "well child", but a significant number of children (21.32%) were diagnosed as having upper respiratory infections, and an additional 16.75% were behind on immunizations.

Table 6. Children Diagnoses (rank order) Health Care for the Homeless Coalition of Greater St. Louis

Diagnosis	Count	Percent
Health Checkup	62	31.47%
URI	42	21.32%
Behind of Immunizations	33	16.75%
Skin	19	9.64%
Dentition	13	6.60%
Anemia	12	6.09%
Otitis Media	10	5.08%
Other	70	26.82%
(32 diagnoses)		
Total	185	100.00%

**Health:** There are a number of recent studies characterizing the health of homeless populations which document physical health problems including infestations and lice, hypertension, trauma, substance abuse, and upper respiratory infections.<sup>16</sup> Ill health, whether physical or

Table 7. Adult Diagnoses (rank order) Health Care for the Homeless Coalition of Greater St. Louis

DIAGNOSIS	Total	Percent
1 ETOH*	215	30.58%*
2 Psych	127	18.07%
3 URI	114	16.22%
4 Hi BP	100	14.22%
5 Skin	88	12.52%
6 Trauma	66	9.39%
7 Anemia	63	8.96%
8 Dentition	51	7.25%
9 Hlth Status	51	7.25%
10 GYN	34	5.77%
Total persons	703	100.00%

\*Note: Percents based on 703 unduplicated individuals

psychiatric, compounds the problems of homeless persons in successfully negotiating their daily rounds and in overcoming obstacles to successful resolution to their homeless

condition. Data from the St. Louis HCH program indicate that alcohol abuse (ETOH), is the most common single principle diagnosis for adults: The problem of alcohol use/abuse among the homeless is well documented in the literature. In St. Louis approximately 69% of the adults who received health services indicated current alcohol consumption, while almost half of these same individuals, 49.57%, indicated that they have been told recently that they have a drinking problem. Table 8 provides a breakdown of answers to questions about alcohol consumption among homeless adults in St. Louis.

Table 8. Answers to questions: "Do you currently drink?" and "Have you been told you have a drinking problem?" Health Care for the Homeless Coalition of Greater St. Louis

Been Told?	Do you Drink?			
	No	Yes	Total	
No	123	112	235	(50.43%)
Yes	22	209	231	(49.57%)
Total	145	321	466	(100.0%)
	(33%)	(69%)		

Reported alcohol use, like psychiatric health status, also appears to be related to length of time without a home. Those who report both current drinking and prior identification of a drinking problem report an average of over 26 months without residence, while those denying both current drinking and prior identification of a drinking problem indicate less than one year without residence.

The special problems of vulnerability which homeless persons face make the collection of data about homeless lifestyles difficult and in certain cases impossible. Every effort should be made, however, to standardize the collection of information on homeless persons so that more accurate estimations of the problems of the homeless can be offered to funding sources. In addition, efforts to track service delivery to the homeless and to evaluate program alternatives can only be accomplished with sound data based systems. Apropos of this need, services to the homeless have been rendered in one shape or form since the institution of almshouses. What makes for a necessity for a more responsive data base to allow better program development is the specialized homeless populations which are beginning to differentiate themselves in a variety of service settings. These special populations, as indicated earlier in this paper, require a whole new series of programmatic approaches to their specialized needs. Thus data are required to track not only traditional programs and their impacts on the general problem of homelessness, but additional data are required to track innovative programmatic development designed to meet the special needs of these homeless population groups.

The data needs become more complex when one considers the necessity of networking services to both traditional and specialized population groups. Networked community service programs are developing in such cross-disciplinary areas as health services, mental health services, social services, job training, life skills training, and effective parenting. Thus, it can be seen that due to both the complex and changing needs of the newly emerging homeless populations and the necessity for interdisciplinary networking to engage these needs, more relevant data bases are required to both track and assess services, targets and impacts.

## Linking Data to Action Systems

Information technological support systems are not ends in and of themselves. Such systems are only justified to the extent that they link data to areas of responsible action. Implementing information linked action systems is a key requirement of any service data system designed to enlighten public policy and justify program expenditures. Those cross trained in information technology as well as in the substantive area of social policy implementation are ideal translators of the needs of both systems. The authors have played such a linkage role. The following example illustrates how that linkage function is played out.

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*Implementing information linked action systems is a key requirement of any service data system designed to enlighten public policy and justify program expenditures. Those cross trained in information technology as well as in the substantive area of social policy implementation are ideal translators of the needs of both systems.*

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The St. Louis Health Care for the Homeless Coalition's data base system, designed by one of the authors, provides an example of the linkage of data on the homeless to relevant actions systems. Information about homeless persons' health status, demographic characteristics and background data are obtained for each homeless person who receives on-site services in participating shelters for the homeless. Data are also obtained throughout the health delivery process for tracking health outcomes and for assessing the utilities of various interventions. At each focal point in the Health Care for the Homeless program data are obtained from both homeless persons, and from health providers and cooperating auxiliary services. Figure 3 (next page) shows the focal points or tracking nodes in the St. Louis HCHC system which produce relevant program and policy evaluation information.

The provision of tracking data to service providers acts as an immediate feedback mechanism so that minor adjustments can be made in the delivery of services. For example, knowledge about the length of time persons have been without residence, crosstabulated by age, sex, race, presenting problem, or related characteristics can be helpful in the selection of program alternatives.

Summary project reports are funneled to appropriate oversight committees so that decisions about resource allocation can be informed by accurate data from the field. For example, the question of whether homeless persons have been referred to an alcohol treatment program is asked during the screening session.

These data are crosstabulated with data from other sources and the results can be used to examine more complex multivariate relationships. Statistical tests are not part of the Health Care for the Homeless information management system. A separate spreadsheet program developed by one of the authors, however, is capable of generating a t test of

independence, and parametric correlations and nonparametric measures of association.

Such management information capability adds a considerable capacity to program managers and administrators for their research and analytic options. These additional quantitative capabilities allow program managers immediate access to both univariate and more sophisticated statistical applications which inform program evaluation and policy analysis.

## Policy Issues

Both current and newly developing information technologies have a vital functional role to play in the shaping of public policy issues affecting governmental and private agency responses to the homeless. Public policy requires an enlightened community and informed public officials. Large amounts of data need to be systematically collected, integrated, transmitted and shared at various levels of policy aggregation. Policy makers at the federal, regional, state, and local community levels need to keep in touch with changes in the numbers and distribution of the homeless in their various jurisdictions. It has been demonstrated in other policy studies that lack of relevant and timely data retards responsible policy development. When this reality is recognized a reasonable response is the harnessing of current data processing capabilities to meet the demands of sound policy development.

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*Both current and newly developing information technologies have a vital functional role to play in the shaping of public policy issues affecting governmental & private agency responses to the homeless.*

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Subsidiary data issues center on insuring entitlement programs, meeting policy objectives, justifying expenditures, and charting desirable social benefits. It is becoming more and more recognized that these subsidiary policy activities require their own specialized information technologies.

## Summary

The trauma of living without a permanent residence poses unique difficulties for homeless persons, and attempts by human service providers to relieve suffering and ameliorate problems sometimes require herculean efforts. Human service managers and administrators would do well to utilize a range of new information technologies to attend to monitoring population needs and tracking service delivery in order to assess the effectiveness of innovative policies in both traditional and emerging programmatic efforts. Such policy based program evaluations, derived from relevant and timely empirical data,<sup>17</sup> increase the legitimacy and acceptance of programmatic responses and provide additional bases of support for increased funding at local, state, regional and federal levels of responsibility.

Highlighted in this paper has been the unique linkage role and function of professionals cross trained in both information technology and policy development.

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# Computers and The Investigation of Child Abuse and Neglect by C. Aaron McNeece, Ph.D. & James R. Jolley

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This paper reports the findings of research on the impact of a centralized and computerized reporting system on the investigation of child abuse and neglect cases in Florida. It was found that a very strong inverse relationship exists between population density and the prompt investigation of cases. This relationship is partly explained by the high rate of staff turnover in urban areas. Surprisingly, caseloads seem to have little impact on the promptness of investigations. Also, the promptness of response to complaints actually decreased after the introduction of a centralized, computerized reporting system.

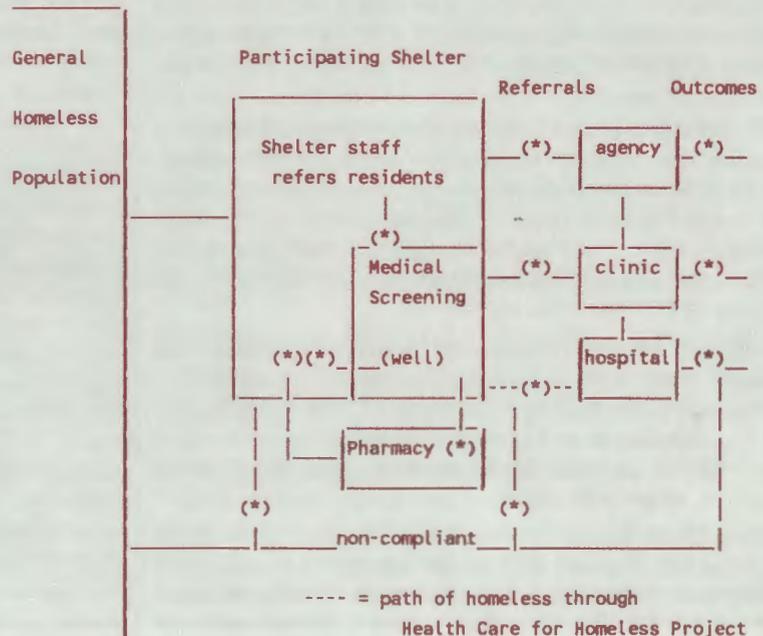
*This paper reports the findings of research on the impact of a centralized and computerized reporting system on the investigation of child abuse and neglect cases in Florida.*

## Introduction

Since children have been historically treated as the chattel of their parents, it is perhaps not surprising that they have

Figure 3. St. Louis Health Care for the Homeless Project

(\* ) = tracking focal points or nodes



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often been abused or neglected. However, it is somewhat surprising that the Society for the Prevention of Cruelty to Animals was organized several years before the Society for the Prevention of Cruelty to Children (McCrea, 1910).

Human history is rife with examples of prescribed child abuse, and only in recent years have we begun to enforce sanctions against those who willfully abuse or neglect children (Kadushin, 1980). Even today in Florida, a police officer may make an arrest without a warrant for a misdemeanor child abuse offense only if it is committed in his or her presence. Ironically, Section 828.17 of the Florida Statutes does permit a warrantless arrest for misdemeanor animal cruelty.

Fortunately, every state has now enacted legislation providing for intervention into family life when "parental care appears to be neglectful, abusive, or cruel, or in some way dangerously inadequate" (Costin, 1979). These laws are generally found either in criminal codes, juvenile court statutes, or child abuse reporting laws.

Although criminal sanctions are a poor means of preventing child abuse, few would disagree that children deserve such protection (Paulsen, 1966). The moral and ethical implications of not prosecuting crimes against children are difficult to contemplate. Juvenile court statutes in most states provide special protection for children in specialized courts.

The third kind of legislative provision, child abuse/neglect reporting laws, are now found in all fifty states. Beginning in 1963, the Children's Bureau and the American Humane Association each published guidelines for mandatory reporting legislation (American Humane Association, 1962). Following these guidelines, most states have enacted legislation which make it compulsory to report certain types of cases, and all grant immunity to physicians and certain other persons reporting abuse. It is this third kind of legislation with which this paper is concerned.

## Definitions of Abuse and Neglect

**Physical** abuse includes the beating of a child to the point where he or she sustains some physical damage. What is considered as physical abuse in one community may be considered a form of legitimate violence in another, however (Arnold, 1962). The problem in each case, as Kadushin sees it, "is to distinguish discipline that is 'legitimate violence' toward children from abuse that is excessive and inappropriate..." (Kadushin, 1980). Other societies hold that no form of physical violence toward children is legitimate (Heutoff, 1979; Hyman 1977).

**Sexual** abuse generally includes sexual intercourse (genital or anal), oral-genital contact, masturbation, fondling, and exposure. Once more, a completely unambiguous definition is not available. At some point, expressions of parental warmth such as hugging, kissing, touching, or fondling may become inappropriate. Most often the sexual abuse occurs in the child's home by someone who is not a stranger, and the child is pressured rather than physically forced to participate (Burgess, Holstrom, and McCausland; 1977).

**Neglect** is a problem of omission rather than a crime of commission. The ultimate form of neglect is child abandonment, but it also includes inadequate control or supervision of a child, or neglect of a child's educational, nutritional, or

medical needs. Cases of neglect have been estimated to outnumber cases of abuse by as many as ten to one (Polansky, Hally, and Polansky, 1974).

**Emotional neglect** is even more difficult to define than our previous terms. State statutes refer to the child's "emotional health," "mental well-being," "emotional maladjustment," "emotional impairment," or "mental injury." Almost three decades ago, Mulford defined emotional neglect as "the deprivation suffered by children when their parents do not provide the opportunities for the normal experiences producing feelings of being loved, wanted, secure, and worthy which result in the ability to form healthy object relationships" (Mulford, 1958).

## The Incidence of Child Mistreatment

From a study of reported cases of physical abuse, David Gil estimated an overall abuse rate of 9.3 children per 100,000 in 1968. About 30 percent of the families were female-headed; 48 percent had incomes below \$5,000. Reported cases for nonwhite children were 21 per 100,000; for white children, 6.7 per 100,000 (Gil, 1970). A later study conducted by the National Center on Child Abuse and Neglect found that the combined reported and unreported rates were much higher. The total rate of abuse and neglect was estimated to be 10.5 per 1,000 (U.S.DHHS, 1981).

physical assault	3.4 per 1,000
sexual exploitation	0.7 per 1,000
physical neglect	1.7 per 1,000
emotional abuse	2.2 per 1,000
emotional neglect	1.0 per 1,000
educational neglect	2.9 per 1,000

This same report indicated that reported rates of child abuse and neglect were substantially higher for urban than for rural areas. (Our research reports a moderate positive correlation [ $r = .34$ ] between a district's population and the rate of reported cases.)

Since only about one-third of the cases in this study in either urban or rural areas had been officially reported, these rates are probably still very conservative estimates of the actual incidence of abuse and neglect. With the increase in reports of child abuse and neglect, particularly sexual abuse, demands on agencies to conduct more investigations and to serve greater numbers of child victims has dramatically increased. Because of the lack of resources, many state agencies cannot comply with state laws mandating timely investigation of reports and are forced to establish priority systems for the types of cases that receive prompt attention. As a result, reports are not being investigated promptly, and their families are not being provided with appropriate services. Legislative responses throughout the country have focused on courtroom reforms and employee background checks rather than life-saving prevention and treatment (CWLA, 1986).

All state agencies are required by state law to investigate reports of abuse and neglect within a set time, usually 24 to 48 hours. Approximately one-third of the states indicate that they are unable to investigate a substantial proportion of reports within the required time. Neglect cases, as we will see shortly, are frequently given the lowest priority for investigation, although this is the type of maltreatment that most often results in fatalities.

## Florida's Abuse Registry

Prior to 1971 there was no centralized reporting or monitoring system in Florida for suspected abuse and neglect cases. In 1971 the legislature approved laws requiring the establishment of "central registries" for recording abuse reports regarding children (71-136, Laws of Florida). Subsequent legislation set standards for recording cases and for expunction of unfounded reports. The Florida Abuse registry has operated twenty-four hours per day, seven days a week since 1971 to receive, record, and transmit to appropriate authorities reports concerning suspected cases of abuse, neglect, or exploitation of children by their caretakers. The Abuse Registry is legally mandated to:

- immediately transmit reported cases to the appropriate authorized counselor responsible for conducting the protective investigation,
- enable the Department of Health and Rehabilitative Services to determine if prior reports concerning the same subjects exist, and
- regularly evaluate the Department's programs for protection of the abused and neglected child through compilation and analysis of statistical and other information.

Manual files were maintained in the Abuse Registry of each report beginning in 1971. Within thirty days of the report, the local counselor who investigated the report was required to submit an investigative report to the Abuse Registry. These were matched and filed manually by the child's name. A cross reference index of abusers was also prepared for each report and filed by the perpetrator's name (and facility name in cases of institutional abuse and neglect.) In 1975 legislation was passed which authorized an information system for dependency and delinquency programs (75- 48, Laws of Florida). This legislation, coupled with the need to give Children, Youth, and Families Services counselors more access to abuse data, spurred the development of the Dependency/Delinquency Subsystem of the Client Information System.

In 1977 statutes were passed requiring the tracking of adult abuse, neglect, and exploitation (77-174, Laws of Florida). The approach used by Aging and Adult Services to satisfy that legislation was to manually record the victims as clients of the protective services programs of the state and to register cases with the Abuse Registry as had been done for children.

In 1981 the Abuse Registry began the implementation of a plan to computerize all manual files. The Abuse Registry Information System (ARIS) was developed over the next two years, and several hundred thousand manual files were data entered by 1983. About that same time, the Delinquency/Dependency subsystem of the CIS was also implemented.

Also in 1983 a management review of the Abuse Registry addressed the issue of the duplicate effort required on the part of HRS staff to maintain three parallel systems. The Abuse Registry Information System captured information on reports and investigations of child and adult abuse/neglect, while the Client Information System was developed to track the provision of services to clients. Perpetrators were not perceived as clients of the Department, and consequently they were not registered in the CIS. Based on the management review, the secretary of HRS decided in 1984 on a merger of the three systems. Legislation that same year

also extended the expunction criteria to all systems. At this time a security system was developed for the CIS that would limit access to confidential files.

A workgroup was created to study the issue of merging the systems shortly before another law was passed requiring expunction of "other computer systems or records." This latest change would allow HRS to develop one automated, integrated information system for all adult and child abuse cases to be used by the Abuse Registry Staff, Aging and Adult Services staff, and Children, Youth, and Families staff.

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*This latest change would allow HRS to develop one automated, integrated information system for all adult and child abuse cases to be used by the Abuse Registry Staff, Aging and Adult Services staff, and Children, Youth, and Families staff.*

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A new system, the Florida Abuse Reporting Information System (FARIS), was developed and tested in three of the state's eleven HRS districts. Unfortunately, a change in HRS' administration following the 1986 elections led to a decision to develop yet another information system, the Protective Services Initiative System (PSIS). At this time the cumbersome triplicate record-keeping system is still being maintained.

In 1985 the legislature adopted legislation (85-54, Laws of Florida) which requires screening of persons working with children and the developmentally disabled. This screening includes fingerprinting, FBI criminal history checks, Abuse Registry checks, and a review of delinquency records. A microcomputer system was developed in 1985- 86 as a short term solution to tracking approximately 160,000 screenings which had to be conducted during the first year.

During the 1987 legislative session, additional laws were passed which require reports of abuse or neglect to be classified as confirmed, indicated, or unfounded. Confirmed means that the perpetrator has been identified and that there is evidence that abuse or neglect has occurred. Indicated means that abuse or neglect indicators are present, but no perpetrator has been identified. Unfounded means that no indications of abuse or neglect were found. Currently only "confirmed perpetrators" may be identified as perpetrators in the Abuse Registry information system.

It would seem that the provision of timely information to appropriate personnel regarding previous reports on the same child or family should hasten the process of investigation and provide greater protection for the victim. The provision of more accurate, up-to-date information to counselors and caseworkers involved in case reporting and investigation was one of the major objectives of computerization. Part of our efforts in this research was directed toward examining the impact of computerization on the

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*...more accurate, up-to-date information to counselors and caseworkers ...was one of the major objectives of computerization.*

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Table 1  
Population Data, HRS Districts  
1985

District	Population (1000's)	Population Density (persons/SqMi)
1	490	133
2	496	52
3	830	75
4	1158	240
5	1033	1015
6	1365	258
7	1201	338
8	747	113
9	1011	230
10	1124	928
11	1830	612

portion. While the most rural counties are generally in the north, much of the south is also sparsely populated.

**Cases and Case Handling** As mentioned earlier, the urban areas have the highest rates of reported abuse and neglect cases. Even so, there are some interesting anomalies. For example, Districts 5 and 6 are numbers 7 and 9 in total population, are located adjacent to each other, and are similar in several respects. Yet District 5 has a reporting rate of 3.9 cases per thousand population, while District 6 has a rate of 10.48, and the population density of District 5 is the highest in the state (Table 1). Part of the explanation for this aberration doubtless lies in the difference in the child population between the two districts. District 5 consists of only two counties which have a very high proportion of retired persons. Another possible explanation is that District 6 is one of those districts used to develop and pretest the current information system used by the Abuse Registry.

investigative process, particularly the speed with which the investigation is commenced.

Additional legislation has mandated further changes in the Abuse Registry procedures which are currently being implemented. By July 1, 1988, all cases must be reported only to the central toll-free WATS number. Reporting to district offices will no longer be permitted. Obviously, this change will require a massive organizational effort. Subsequent research should review the impact of this centralization of reporting on the investigative process after it has been in operation for at least one year.

## Methodology

Each report of child abuse or neglect had been coded by the counselor receiving the report and entered in the Dependency-Delinquency subsystem of the CIS. Upon completion of the investigation a second entry was made to document the disposition as well as the date and time the investigation was commenced. For the purposes of this study, additional variables were added to this data set. These included 1985 census data on population, child population, and population density. Also added were data on staffing needs and turnover rates from a recent management review of the Abuse Registry (Single Intake Evaluation, Report E-86-4, 1986). The Statistical Package for the Social Sciences (SPSS) was used to analyze the data.

## Data Analysis

**Population** Florida is an excellent choice for examining urban/rural differences in case processing. The eleven HRS districts vary in population from 490,118 to 1,829,980. Florida contains some of the most highly urbanized as well as some of the most sparsely settled counties. Population density among the eleven districts varies considerably, from 52 to just over one thousand persons per square mile (Table 1). The most urban areas in the state are St. Petersburg, Miami, and Ft. Lauderdale, all located in the southern

portion of the state. A glance at Table 2 also reveals a considerable variation in the rate of compliance with the 24-hour investigation mandate of Chapter 415. While the urban states have consistently had lower rates, this tendency has grown during the past five years. At the same time, one of those urban districts (District 5) has been consistently the most successful in the speedy investigation of cases (Table 2). This gave us reason to suspect that the raw population figure for each of the districts might not be the best indicator of "urbanization." Another interesting discovery was that in every one of the districts, the 24-hour investigation rate was slightly higher for cases of sexual abuse than for the total cases reported. This was true for urban as well as rural districts. This was noteworthy because the greatest likelihood of fatalities is among neglect cases.

**Staffing, Caseloads, and Turnover** A report evaluating Florida's "single intake" system (for dependency and delinquency) in 1986 provided some interesting data on HRS personnel. The figures in Table 3 indicate the per cent of needed positions (based on a workload formula estimated

Table 2

Reported Cases and Per Cent Investigated  
within Twenty-four Hours, By HRS District

District	%-24hrs	%-24hrs	Change	Total Reported Cases	
	1985	1986		1982/83	1985/86
1	89.2	96.6	+7.4	4893	6452
2	91.1	91.1	0.0	4940	7769
3	91.8	88.7	-3.1	10077	13011
4	78.6	78.3	-0.3	14574	18399
5	88.5	68.8	-19.7	7605	9813
6	93.8	97.1	+3.3	14810	21643
7	80.1	87.0	+6.9	9484	10990
8	89.5	83.3	-6.2	5263	7577
9	89.4	89.7	+0.3	4778	7275
10	83.4	69.2	-14.2	4858	11212
11	88.2	64.5	-23.7	7677	11507

Table 3

Personnel Needs, Caseloads, and Turnover Rates  
HRS Districts, 1985

District	% of Single Intake Personnel Needs Met	Caseloads	Turnover Rate
1	71	280	27.4
2	71	293	41.4
3	65	256	54.2
4	88	305	62.8
5	77	210	45.0
6	57	254	33.0
7	70	216	63.1
8	66	260	63.6
9	78	274	48.8
10	71	378	78.0
11	66	182	61.5

single intake counselor positions are almost constantly filled with new and relatively untrained employees.

The caseload rates were only weakly correlated with the outcome measures. District 11, with the lowest caseload ratio among the districts, was able to commence the investigation of only 64.3% of reported cases within the mandated 24-hour period (Table 2).

**The Impact of Computerization**

Three of the districts experienced changes of less than .5% in the investigation rates between 1982 and 1985 (Table 2). Three of the districts improved their investigation rates between 3.3% and 7.4%, and the

by the Children, Youth and Families Program Office) which were actually staffed. Also provided in that table are the turnover rates in single intake counselors in 1985 and the caseload rate for each district for the 1985-86 fiscal year. District 4 had both the highest caseload rate and staffing rate. The larger districts were characterized by high turnover rates, but they did not have the highest caseloads. Although caseloads were only weakly correlated with responsiveness, there was a moderate negative correlation ( $r = -.58$ ) between caseloads and the percent of total cases "indicated." This suggests that higher caseloads may not permit the kinds of investigations which result in "indicated" cases.

**Relationship Between Population & Case Processing**

Pearson correlations ( $r$ ) were obtained between the three case outcome measures and several indicators of population and staffing, and the results are summarized in Table 4. It is obvious that population density rather than population itself provides a better explanation of the investigation rates among the eleven districts. The high correlations ( $r = -.80$ ,  $r = -.83$ ) suggest a very strong relationship between the degree of urbanization in a district and the success in meeting the 24-hour mandate.

There were some surprising relationships between "staffing" measures and case outcomes. On all three indicators, the percentage of perceived staffing needs met was negatively correlated with investigation rates. In other words, districts which had a higher degree of their staffing needs met were slower to investigate cases. Turnover rates were strongly correlated with investigation rates, but this was to be expected. The mean turnover rate of 53.9% indicates that

remaining five districts had decreases of between 2.6% and 21.9%. The only pattern noticed here is that the three districts with the greatest decrease in performance were also the most highly urbanized. Generally those moderately urbanized districts had positive changes, and the most rural districts experienced very little change.

We suspect that there is a considerable variation among counties within the districts on each of the outcome measures reported here. We also suspect that the degree of staff training and preparation for computerization is directly related to each district's change in responsiveness between 1982 and 1985. The first matter can be explored in subsequent research. Unfortunately, the second issue is much more problematic.

What our data strongly suggest is that a district's ability to respond quickly to an allegation of abuse or neglect is greatly enhanced by maintaining a stable, experienced staff. High turnover is related to poor response time. It is also strongly suggested that high caseloads may lower the probability of substantiating allegations of abuse and neglect. Districts with the lowest caseload ratios have the highest percentages of "indicated" cases.

*We also suspect that the degree of staff training and preparation for computerization is directly related to each district's change in responsiveness between 1982 and 1985.*

Table 4

Correlations Between Population, Staffing and Case Processing Variables

Variable	%24hrs - 82/83	%24hrs - Sexual 85/86	%24hrs - 85/86
Population	-.24	-.29	-.55
Pop Density	-.27	-.83	-.80
Staffing Needs Met	-.64	-.48	-.28
Reported Cases	-.02	+.15	+.23
Caseloads	-.21	-.14	+.10
Turnover	-.63	-.65	-.66

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### Rule of thumb # 4

Allow 16 hours for every module, report input form and maintenance routine when using dBase III. With dBase IV (which has more system development tools) cut the time in half.

Source: *PC Week*, 10 Oct 88, p. 5.

### Rule of thumb # 5

A LAN (local area network) requires 25 hours/week of dedicated staff time. Select one person as the LAN operator. Before installing a LAN, install software packages first in a standalone environment and let the users get accustomed to them.

Source: *Doug Hall, CUSSNet*, 3/89.

### Rule of thumb # 6

In system development, focus on "state of the need" of users rather than "state of the art" of technology.

Source: *AAAI Magazine*, Fall-89, p. 13.

### Rule of thumb # 7

Learn to say no to hand-me-down computers

Source: *CUS*, May/June 89, p. 3.

## Using a Personal Computer in a Small Rural Social Service Setting, By Gordon G. Ragland, Jr.

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### Introduction

When Gottfreid Wilhelm von Leibniz built his step reckoner in 1694 he probably had no idea that one day young school children would carry pocket calculators capable of performing the same functions. Likewise when John Mauchly and J. Presper Eckert of the University of Pennsylvania designed ENIAC, the first fully electronic computer, there was little thought of a time when computers would be desktop machines as ubiquitous as the telephone.<sup>5;p. 57</sup>

In the public social service arena there has been a similar lack of appreciation for the impact computers can have on the work of human service practitioners. But the experience of the Charlotte County Department of Social Services illustrates that computerization is an effective and efficient mechanism for increased production and is a concept well within the reach of the limited resources of a small rural based agency.

*But the experience of the Charlotte County Department of Social Services illustrates that computerization is an effective and efficient mechanism for increased production and is a concept well within the reach of the limited resources of a small rural based agency.*

### Charlotte County Demographics

Charlotte County is located in south central Virginia. It is a rural community whose primary economic base is agricultural and textile production. The county has a population of 12,266 and a population density of 26 people per square mile. The median family income is \$16,498 which is less than half of the state median income. Forty six per cent of Charlotte's families have incomes below \$10,000 per year and only two per cent have incomes over \$40,000. Sixty two percent of all county citizens complete less than twelve years of education and less than six percent of the total county population has a college degree.

The relatively low incomes and education levels result in a high level of utilization of governmental supplements and benefits. Of the 2,229 school age children in the county, 1,003 receive free lunches and an additional 241 receive reduced priced lunches. A total of 1,873 people participate in the Food Stamp Program and 219 households receive Aid to Dependent Children payments. There are a total of 1,107 people receiving Medicaid assistance and 677 households receiving Fuel Assistance payments. There are 1,923 people receiving commodity food supplements. These demograph-

ics place the Department of Social Services in the position of facing many needs with a scarcity of resources to address them. This led social service staff to consider computerization as a mechanism for maximizing the resources available.

### The Decision to Automate

In 1985 Agency staff began research to identify those tasks that could most readily be automated. These included preparation of financial reports, fund tracking for the many programs operated by the department, payroll preparation, leave record maintenance, budget preparation, and word processing.

The next step required the review of software programs capable of handling the tasks identified. After reviewing several programs the Agency selected Lotus 1,2,3 and Word Perfect. Lotus 1,2,3 is the current leader in spreadsheet software and Word Perfect, while not dominating the field, is the leading manufacturer of word processing programs.<sup>1</sup> p.199

It was then necessary to look for hardware capable of running the software selected and priced within the Agency's budget range. Again after reviewing several models, the Agency selected Leading Edge because it met the criteria at an affordable cost. The Agency currently utilizes three Leading Edge Model M's. All are enhanced with 640K of RAM. Two have twin 360K floppy disk drives and one has a single floppy drive and a 20 megabyte Seagate hard disk drive. In addition the Agency has one Datavue 25 Laptop Computer.

### LOTUS 1-2-3 Applications

The Department of Social Services is responsible for the administration of twelve major programs all of which have different funding sources and utilize varying percentages of federal, state, and local dollars. For example Aid for Dependent Children assistance payments are composed of 53.14% federal funds and 46.86% state funds. Administrative funds for the program are 80% state and 20% local monies. In the Food Stamp program, the food coupons are 100% federal funds while again the administrative funds are 80% state and 20% local.

This variety of funding sources within one organization requires that many expenses be allocated to several programs. The cost of rent, supplies, telephones, insurance, vehicles, etc. must be charged to the different programs in proportion to their usage.

In addition certain staff salaries such as the director, clerical staff, and the fraud investigator must be apportioned to numerous programs. Prior to automation this apportionment of cost was accomplished by having staff maintain a daily activity log. At the end of the month the office manager would tally the hours for each activity, compute a percentage for each activity, multiply each salary and fringe item by the percentages, total to get the charges to each program, and complete the appropriate report. This task took approximately ten hours per month.

The massive amount of calculations required led the Agency to look at spreadsheet software to accomplish this work. It was readily apparent that Lotus 1,2,3 was the prime contender in this field. Introduced in 1983, 1,2,3 was hailed immediately as the most significant new software product since VisiCalc, which appeared in 1978. 1,2,3 required only

three months to displace VisiCalc on the software best seller lists, and remains firmly entrenched as the best selling software program for the IBM PC and compatible computers.<sup>6</sup> p.5

Lotus 1,2,3 provides the user with a gigantic spreadsheet similar to an accountant's ledger pad. The spreadsheet has 256 columns and 8,192 rows. Each row in 1,2,3 is assigned a number and each column a letter. The intersections of the rows and columns are called cells. Cells are identified by their row--column coordinates. For example, the cell located at the intersection of column A and row 15 is called A15. The cell at the intersection of column x and row 55 is called x55. These cells can be filled with three kinds of information: numbers; mathematical formulas, including special spreadsheet functions; and text (or labels).<sup>6</sup> p.17

No one in the agency had any previous experience with Lotus so the agency drew on the resources of the Southside Virginia Community College for classroom instruction and technical consultation. The college provided invaluable assistance at a most reasonable cost.

### Payroll

With this training agency staff was able to construct an integrated spreadsheet that produced the agency payroll, determined the percentage of time worked by staff in the various programs, calculated the cost to each program, and posted the amounts to the appropriate report. What had been a ten hour task is now completed in three hours with the bulk of that time taken by the computer printer producing the reports.

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### Expenditure Ledger

Lotus can be used in a similar way to produce an encumbrance and expenditure ledger. Title XX of the Social Security Act provides federal funds for the provision of services to eligible clients. Part of these funds are used to purchase services and must be tracked by service category. Using the calculation capabilities of Lotus, Charlotte has developed a spreadsheet that provides a listing of all purchase orders written for each service category, total encumbrances, total expenditures, and unencumbered balances for each category. This becomes a very useful tool for ensuring adequate funding in a given category before a purchase order is written.

### Leave Records

Personnel leave records are another tasking where Lotus has proved very helpful. Each month the leave clerk must review leave forms for each employee, compute the amount of annual, sick, and compensatory leave used, compute the amount of annual, sick, and compensatory leave earned, calculate the difference, adjust the previous month's balance, and prepare a report of leave balances for each staff

member. By setting up the leave record file as a Lotus spreadsheet the leave clerk now enters the leave taken and earned for the month. Lotus calculates the balances and produces the report for staff. In addition it provides a readily available record of all staff leave taken and earned throughout the fiscal year.

## Budget Preparation

The preparation of the Agency's budget is time consuming because of the necessity to develop it by each program and the need to ensure that administrative cost are appropriately charged to the correct cost center. In addition the various programs have different proportions of federal, state, and local funds which must be accounted for separately. To complete the six stage process of budget preparation requires approximately 425 separate calculations. With Lotus it is possible to build the budget as an integrated worksheet and to put the formulas for computing the various elements in the spreadsheet. It then is only necessary to enter the variable amounts and 1,2,3 will perform all of the 425 calculations in microseconds.

## Program Status

Each winter the Agency administers a Fuel Assistance Program under the Low-Income Home Energy Assistance Act. Allocations vary from year to year so that it is imperative to keep a daily status check on the program. This includes tracking the number of applications taken, number approved, number denied, amount of funds encumbered and the amount of allocation remaining. Again, by setting up a spreadsheet in Lotus, it is only necessary to enter the pertinent numbers each day. Lotus then instantly calculates the totals to date and determines the remaining allocation. This report can then be printed and distributed to staff so that everyone can be aware of the daily status of the program.

## Word Perfect Applications

Bruce Bostian, founder and president of Satellite Software International (SSI) has stated that his inspiration for the Word Perfect program came from the human need for an uncomplicated, non-frustrating word processing program. It is a powerful tool for anyone who writes, edits, and produces letters, reports, or manuscripts. Word Perfect's other strengths include its speed and simplicity in managing mailing lists, files, and repetitive office tasks such as memos and billings. It also provides math functions for calculating and creating spreadsheets, which make it easy to incorporate charts into reports.<sup>3; p.4</sup>

## Correspondence, Court Reports, and Narratives

With over 2,000 people receiving some form of assistance from the Agency each month, there is a large volume of correspondence. Word Perfect provides the capability to create a video display of letters and notices quickly, make corrections as needed, and produce a finished copy for distribution. Similarly custody and adoption reports which can be quite lengthy can be produced in draft form, modified as needed, and then reproduced in final form in a matter of

minutes. Repetitive letters can be typed once and then reproduced as needed.

## Mail Lists

The Charlotte Department of Social Services mails food stamps to approximately 650 households each month. Prior to the acquisition of a personal computer, staff hand addressed all of the envelopes. Now, with Word Perfect an address file is maintained on all food stamp households. At the beginning of the month the issuance clerk reviews the file, deleting all closed cases and adding newly approved cases. Word Perfect then prints mail labels for each household.

Mail files can also be utilized when sending letters or notices. Word Perfect will merge a document with a mail file and automatically produce an individual document for each listing in the file as well as inserting the interior address and salutation.

## Payment Registers

All payments made by the Agency are recorded on a warrant register that is filed with the county treasurer. The registers are segregated by program or administrative category. The Agency makes approximately 350 payments per month and the production of these registers can take many hours.

By utilizing Word Perfect each register can be created once and filed electronically. At the beginning of each subsequent month the file is retrieved and any necessary changes made on the video screen. The revised register can then be printed in a few minutes. In addition Word Perfect's mathematics function can be utilized to compute the totals for the register, eliminating the need to use a calculator.

## The Cost of Automation

Most people are familiar with the dramatic changes that have occurred in regard to the size of computers. But an equally dramatic revolution has taken place in terms of cost. The first room size computers had four kilobytes of memory and cost several million dollars. Today four kilobytes of memory cost about \$12.00.

This substantial reduction in cost has brought powerful computing capability into the range of small agencies with limited budgetary resources. But, as with most consumer products, there is a wide variety of available goods representing a wide fluctuation in prices. Several major manufacturers offer excellent equipment at competitive prices. In addition a large number of companies offer compatible equipment, often called clones, with the same capability as the industry standard machines, but at substantially lower prices.

The decision to automate requires careful research before committing to a purchase. Most advertisements for computer equipment list a price for the basic computer alone. The price may not include the monitor, graphics board, expanded memory, connection ports for printers, connecting cables, or operating software. When these items are priced separately they can easily double the cost of the basic computer. To ensure accurate comparisons, it is necessary to decide what capability the agency requires and

price that same capability among the different products available.

There are additional costs that should be taken into account when considering the purchase of computers. These include support equipment such as computer desks, monitor stands, printer stands, power surge protectors, anti-glare screens, security devices, and copy holders. Also included are increased operations cost for supplies such as continuous feed paper and envelopes, printer ribbons, and diskettes.

The Charlotte Department of Social Services has invested approximately \$9500.00 over a two year period to purchase four personal computers, two printers, and associated software. Costs for supplies for the computers average \$400.00 per year.

## Alternatives for Funding

There are several alternatives available for agencies that may not be able to commit the resources to purchase equipment. Many suppliers offer lease arrangements with lease payments applying toward the purchase of the machine. Currently a name brand computer with 640 kilobytes of RAM and two floppy disk drives can be leased for approximately \$100.00 per month.

Another alternative is to utilize system sharing. In this concept two or more organizations or units share a computer. This requires close coordination and significant planning with regard to how costs will be shared, location of the unit, and assignment of time on the machine. It is also essential that the needs of the organizations be similar enough that they can be met with the same computer capability.

For some organizations it may be possible to build a computer system over time. An agency may elect to purchase one unit a year for several years in order to develop a local area network. Issues of compatibility among units and concerns about obsolescence are foremost in this approach, but it does provide a mechanism for automating an organization at a reasonable cost.

TABLE 1: TIME AND COST SAVINGS IN USING PERSONAL COMPUTERS

TASK	Manual Time	PC Time	Time Savings	Cost Savings
Warrant Register	18	2.50	15.50	120.59
Payroll	1	.25	.75	5.83
Cost allocation				
Reports	3	.25	2.75	21.39
Expenditure Reports	6	2.50	3.50	27.33
Title XX Ledger	12	6.00	6.00	46.68
Leave Records	2	.50	1.50	7.90
Food Stamp Mail				
Labels	12	1.50	10.50	57.01
Court Reports	6	4.00	2.00	12.62
Correspondence & Narratives	24	16.00	8.00	50.48
Totals (in hours)	84	33.50	50.50	\$349.83

## Results of Automation

As the use of personal computers became more routine in the Charlotte Department of Social Services it was possible to collect data on the cost versus the benefits of the

machines. The majority of the cost savings was seen in the form of staff time. Table 1 shows the time savings for one month for the various tasks being performed with the computer and the concomitant savings based on the hourly wage of the person performing that function. The \$349.83 in cost savings per month provides an annualized cost savings of \$4,197.96. This compares favorably with the total investment the agency has in computer equipment of \$9,581.41 and indicates that the payback period for the equipment is 2.3 years.

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*The \$349.83 in cost savings per month provides an annualized cost savings of \$4,197.96. This compares favorably with the total investment the agency has in computer equipment of \$9,581.41 and indicates that the payback period for the equipment is 2.3 years.*

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Of course these savings will not show up in the agency's administrative expenditure report as staff are paid the same regardless of how long a task takes. The real significance of computer usage is the 50.5 hours per month in time saved. This is the equivalent of having an additional quarter time person on staff. Agency personnel have the opportunity to respond to increasing demands on their time and the organization can accommodate increased work loads without having to resort to hiring more staff.

There are other, perhaps, non quantifiable benefits to automation that are equally as important. The staff, particularly the clerical unit, has developed a sense of being on the cutting edge of technology. There is pride in learning new skills and in being able to produce quality results faster and better. In addition there has been considerable reduction in the mundane tasks the clerical staff have had to perform, particularly in numeric calculations and retyping of reports and correspondence. In summary, the Charlotte Department of Social Services has found personal computers to be most cost effective and a very positive boost to production.

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*There is pride in learning new skills and in being able to produce quality results faster and better. In addition there has been considerable reduction in the mundane tasks the clerical staff have had to perform*

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## Human Services Computer Networking by Gerald W. Vest, Mike Connealy and Reba Nichols

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### Introduction

The hum of the computer fan gives way to a bell-like arpeggio as the drive head swims through the magnetic field of the hard disk. Red diodes in the near-by modem flash briefly, dimly illuminating the silent office. Simultaneously with thousands of other communications robots, this one begins to place the first of many out-going calls to others across four time zones. The message packets, following algorithms devised in an ancient computer past, snake at light speed by cable and satellite to destinations throughout the world. While it may sound futuristic to the uninitiated, the foregoing scenario is part of a mundane reality to thousands of users of Fidonet. Among those newly-initiated to this decade-old communications system are many professionals in human service systems throughout the state of New Mexico.

Establishing a unified networking system in New Mexico is even more difficult than in most other states: New Mexico is very large (121,511 sq. mi.), quite rural, multi-cultural and multi-lingual. Social service providers are often geographically isolated from the urban centers and from their own units that are sometimes located 100 miles from them. The main urban center (Albuquerque-Santa Fe) is 4-5 hours from the second and third largest urban areas (Las Cruces in the south and Roswell in the East). Its diverse populations--Hispanics, Native Americans, migrant workers, urban poor of all ethnic backgrounds, military families, rural families, and a general population experiencing the strains of a rural to urban transition--present ever-increasing, equally diverse needs that tax the human service organizations' abilities to respond efficiently or effectively.

### Social Network

Social Networking, described by Elsa Iverson, ACSW, important for all states, is critical for New Mexico. Iverson identifies five aspects of Social Network Theory that apply to our project:

- Holds promise for development of more effective tools for measuring and assessing environmental factors in clients' lives and in conceptualizing the ways people use and interact with their social networks.
- Focuses and organizes the limitless number of factors in "the environment"; better conceptualization of en-

vironmental influences, helps retain the integrity of the social work profession.

- Aids in holistic assessments so that services offered can be more widely accepted.
- Opens up the picture of the client's situation thereby increasing the chances for comprehensive alternative actions.
- Gets to informal helping strategies efficiently, thus increasing intervention options.

For New Mexico, telecomputer networking offers the most viable means for establishing a human services network that is responsive to the needs of professionals and of clients. Such a state-wide telecomputer human service program initiative was instituted on January 1, 1987.

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Sponsored by the National Association of Social Workers through a self-sufficiency grant application submitted by the New Mexico NASW Chapter and designed and administered by Mike Connealy and Jerry Vest representing the Social Workers of Southern New Mexico Program Unit, the project is located in the Department of Social Work at New Mexico State University (NMSU) at Las Cruces. Soon after putting the computer on-line in January, a successful connection was made with the FIDO regional manager in Logan, Utah, and NASW New Mexico was assigned an official Fidonet Mail address, Net 15 / Node 4. Shortly after that, the Las Cruces project was linked to the international human services network, CUSSnet, through the weekly CUSSnet poll coordinated by Steve Ice in Seattle and the CUSS Echomail Conference conducted by Bill Allbritten in Murray, Ky.

### Implementation of Project

We believe that the primary strength for the development of the project was the team approach that existed from its inception. Each member brought to the team special areas of expertise and both common and varied experiences in social work practice. Together, we approached designing and developing this system as a challenge, an adventure. Further, we were fortunate to have the assistance of several knowledgeable professionals in the field of social service telecomputer programming in the initial stages of our operation. Their continuing consultation has assisted us in adding OPUS and Echo Mail and in maintaining and improving our BBS. These people have put into action the spirit of the purpose of networking: cooperation, assistance and the linking of people, resources and ideas.

NASW New Mexico, then, is a network that functions at various levels: locally and statewide it provides opportunities for professionals to interact and exchange information, drawing closer together the human service systems within a large, diverse state; nationally and internationally, it provides a wealth of information, research and professional interaction.

## Training and Community Organization

As early as February, 1987, we conducted our first hands-on training session for human and social service professionals—an activity that has been one of our primary functions in establishing a statewide telecomputer network. Our two, 90-minute workshops emphasize interactive discussion and hands-on demonstrations using at least two microcomputers. Our basic objective is to have each participant know how to access a wide variety of on-line resources using any computer-modem combination. Our specific expectations for participants include the following:

- An appreciation for the full potential of the microcomputer as an integral information management tool for the human service professional.
- A familiarity with the major microcomputer networks including FIDO, CUSSNET, BITNET and AGELINE.
- A working knowledge of a sophisticated, menu-driven communication program which can be used to access any on-line information source.
- An understanding of the techniques, costs and advantages of using electronic bulletin board systems to transmit messages, text files and programs.
- A knowledge of the major categories and specific examples of public domain software appropriate to various services.

Since February, the team has conducted seven major training sessions throughout the state, introducing the network and linking other areas of the state to CUSSNET. In addition to offering more workshops state-wide, we will introduce the project as a regular part of Swk 265--Community Resources, in the Department of Social Work this fall. In this way, our developing professionals will leave our program with computer-based networking experience.

Tutorials are another team function used to acquaint future users with the system and, to date, over 300 individuals have received hands-on training through tutorials. Participants in both the workshops and the tutorials represent a broad base of social service systems in the state. As more agencies and programs link up with the system, the unique possibilities for creative use of the network will expand proportionately.

## Applications

For many, who had previously seen their computers primarily as word processors, these new possibilities are exciting. While it is interesting to speculate on some of the more exotic applications for micro computers in human services work (i.e. Artificial Intelligence, Desk Top Publishing, Psychological Assessment), it is easy in the process to overlook what may be the most important benefit to human services professionals--the enhancement of individual productivity. Any kind of information activity is bound to be facilitated by a microcomputer in the hands of someone well-versed in its use. With access to microcomputers, the need for clerical help is greatly reduced. In terms of quantity, the computer literate professional processes nearly twice the information of those who do not use microcomputers, and, in the process, can access a world-wide data base.

Once users learn to access the system, they often develop new and effective ways to integrate these computer skills into

their daily tasks. One participant of CUSSNET gives just such an example:

I thought you might like to know what uses we at Harrisburg State Hospital are developing for the micro. We have mainframes which track patient census and, of course, the financial aspects, but we are using micros for our own data base of community support and resources. We are also beginning to apply them to the area of psychological testing.

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*With access to microcomputers, the need for clerical help is greatly reduced. In terms of quantity, the computer literate professional processes nearly twice the information of those who do not use microcomputers, and, in the process, can access a world-wide data base.*

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Another participant attests to the importance of his computer in daily productivity:

*I run a non-profit (agency) that provides mental health services to the developmentally disabled here in California. I've had a computer for about six years now and am just beginning to explore the possibilities. The first, and still foremost, application has been in budgeting, followed by standard word processing... I have no clerical staff or other administrative staff--the computer is it. The time (that it) has saved me in budget preparations and word processing has been the only way we could have survived without more administrative support.*

Among the possibilities that this participant is beginning to recognize is the flexibility gained by the simple addition of a modem that gives him access to CUSSnet as well as other functions in his program.

With telecomputer networking, a variety of options are open to the human service provider and the consumer/client. For example, as part of an Alcohol and Drug Education project for NMSU, a special interest conference is being designed to provide information, education, counseling and referral for students, faculty and staff in the area of substance abuse and prevention. Another project with a local rehabilitation program offers the opportunity for clients and staff to participate in a BBS conference on disabilities and needed resources. Both of these projects have the option to enter a wider network or special interest groups.

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*With telecomputer networking, a variety of options are open ...a special interest conference is being designed to provide information, education, counseling and referral for students, faculty and staff in the area of substance abuse and prevention.*

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## Special Interest Groups (SIGS)

Telecomputer programming allows people to interact with others within specific areas of interest. The New Mexico Chapter NASW Fidonet BBS offers twenty Special Interest Groups for participant interaction and conferencing on topics ranging from AIDS to Viet Nam. Because this section of NASW New Mexico has been very active over the last six months, only three of the available SIGS are described here: Two are national, AIDS and Viet Nam; the third is a state and local SIG--On-line Counseling. These message areas are rather unique on this BBS because we are aiming at more depth and seriousness in the discussions than is commonly found in most amateur systems.

**AIDS:** The AIDS/ARC section is one of the most important SIGS for Social Service Providers. Comprised primarily of text files, this section provides a wealth of information for understanding the disease and for working with AIDS victims. In addition to research reports from the Centers for Disease Control in Atlanta and from a San Francisco BBS, participants in this area receive weekly newsletters from Dr. David Dodell of St. Joseph's Medical Center, Phoenix (114/15) that summarize current health issues; they also have access to timely articles for working effectively with those affected by this disease. A recent article, for instance, advised health professionals on approaches for interviewing AIDS patients and their families.

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*The AIDS/ARC section is one of the most important SIGS for Social Service Providers. Comprised primarily of text files, this section provides a wealth of information for understanding the disease and for working with AIDS victims.*

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This section, however, seems to elicit fewer personal messages than some of the other sections. In response to the lack of personal participation, we extended the privilege of anonymity to the AIDS/ARC area. We had already experimented with the use of anonymity in the on-line counseling section (described later in this paper) and found that people respect this approach and that to date, we have not encountered any abuse of the privilege.

### VietNam Network:

One of the most active sections on the NASW New Mexico BBS is the Viet Nam board. It seems that the time has come finally for Americans to break their resolute silence of the past fifteen years about this conflict. The National Viet-Nam board, coordinated by Todd Looney in California, has become a forum for those who represent all sides of that era: VN Veterans, wives/families of veterans, protestors of the day, even Vietnamese who have since relocated in the United States. From the Human Services perspective, this dialogue is helpful because the veterans themselves are providing a valuable referral service for other veterans in need of services. One BBS participant articulates his response to the service clearly:

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*This has been the greatest thing since . . . You have my best wishes. Ever since coming home from Nam, I've felt pretty mixed up. Some things are just hard to forget, I guess...but this BBS is a great idea. Hope more folks use it.*

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*The National VietNam board ...has become a forum for those who represent all sides of that era: VN Veterans, wives/families of veterans, protestors of the day, even Vietnamese who have since relocated in the United States.*

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Most of the participants on the board are, as one might expect, Viet Nam veterans. They use the board to seek information, give information, seek and give opinions and advice, clarify experiences and perceptions and otherwise proceed through the familiar human process to understanding, acceptance and integration of their experiences with those of others who shared this often devastating time with them. Some are angry, very angry. Others are still confused and hurt. But many have come to grips with their experiences and have re-entered the main stream of American society. Together, these groups of veterans are helping one another, and through the Viet Nam board they have the vehicle to reach out to their fellow veterans across the nation. What greater service could a Human Service Network provide than a means for people to reach out to people?

Just a few examples of the variety of messages left on that board show the complex and diverse issues involved in working with the Viet Nam era generation.

*A Veteran--A different country--God, I returned to a different world. I remember nothing was the same! Nothing looked, smelled, tasted the same! ... It's been nearly 20 years now--seems more like 20 months. There seems to be an awakening in this country recently, or possibly it's just interest from a new generation. Too little, too late as far as I'm concerned. They (the whole world) can go to hell....*

*A Veteran--Yeah...it was a different world when we came back. I lost my youth in Viet Nam, and I can't for the life of me remember exactly when....I can't bring myself to the point of saying I should be ashamed of what I did... I have already said that it was the wrong war in the wrong place fought for the wrong reasons, but I lived by the credo of Duty, Honor, Country...VN Vets have a right to be angry, but if they want things to be straightened out, the hatchet needs to be buried (and not in someone else's head!). We need to begin developing the communications WE what to see to set an example....*

*A relocated Vietnamese--I have been in United States since 1973... Since war many American soldiers don't want to be my friend or talk to me. They call me names or make fun or try to be mad at me. I was what many GI's name Kit Carson with US Army near Da Nang. Before that I was VC. That was not my choice. I ran away and surrendered to US Army as soon as I can.... I think I save many life of GI, and they save my life too! We were good friend in Viet Nam, but here they do not like me. Why? I was not bad....*

*Protesters--We were not wrong. We were not right. We just were--struggling to understand how people we loved could be dying in a civil war in a country in the middle of nowhere with a name that we could not even pronounce... We cared about losing friends and loved ones in a war that no one could explain or defend....*

The excerpts above revolve around feelings and varying ideological positions. Although that constitutes much of the dialogue, the board is also filled with messages about job placement, counseling centers, reunions--offering day-to-day assistance to Veterans who need help.

**OnLine Counseling** Set up with John/Jane Doe identification, On-Line Counseling is a state-wide SIG and the creation of the NASW New Mexico team. The purpose of this area is to provide users with the opportunity to participate anonymously in group counseling under the guidance of a skilled, professional clinical social worker. To participate in this area, interested parties simply log on to the system using the name John or Jane Doe and the password, HELP. They are granted access without filling out questionnaires or providing any kind of identifying information other than that which they choose to share.

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*The purpose of this area is to provide users with the opportunity to participate anonymously in group counseling under the guidance of a skilled, professional clinical social worker*

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In the four months that this section has been active, a variety of problems and questions have been presented for consultation and dialogue: depression, health styles, relationship, couples process, burn-out. As seen on the Viet Nam board, participants reach out to one another, offering support, information and empathy.

Following are two excerpts that illustrate the dialogue:

**From:** John Doe                      **To:** Counselor On-Line  
**Subject:** Loss

*In my experiences, I've found that a lot of women can't be trusted. Now this doesn't mean all women can't be trusted, but just a lot of 'em. Several of my women friends were talking once and they all said that if they were going to marry someone, it would be someone like me. I'm just the type of guy they want to settle with. One of my girlfriends said something that really bothered me. She said I was nice, very nice, too nice. She broke off the relationship soon thereafter. Now, isn't there something wrong with that? What did she want? Did she want me to slap her around a bit? That's what her former husband did--she stayed with him for eight years....*

**From:** Patrick                      **To:** John Doe  
**Subject:** Women dating abusers

*You know, I've had the observation that a lot of women date men who are mentally or physically abusive, as well. I think that there are many reasons for this. The main one, in my estimation, is that these women want to punish themselves. Psychologically they feel that they*

*don't deserve someone who is nice to them, and consequently they say things like "you're too nice." If you're nice to these women they feel guilty. If you're lousy to them they feel they're getting what they deserve. Now, I'm not advocating being abusive. Quite on the contrary. I've been seeing a girl for almost two years now. She had lived with an abusive swine for a few months and in her whole life, she had dated chumps like this who belittled her. Once we realized that she was punishing herself, we figured out why and all of our problems were solved. Hang in there buddy, the world has a place for nice guys too.*

## Conclusion

Although NASW New Mexico has made progress toward our goal of establishing a unified human service network in New Mexico, we have encountered some resistance to immediate adoption of the system. Foremost in this resistance is classic computer phobia. Many people are initially afraid of the technology; either they have no experience with computers or they have been introduced to them before in a negative or threatening manner. Money is another element in the resistance. Most agency budgets are already strained, and finding funds for equipment is difficult. A third element in the resistance is time. Many professionals who are not computer literate fear that learning to use this technology is too time consuming for their already over-loaded schedules.

In response to the various elements of resistance, we have developed strategies to overcome these obstacles in the workshops and tutorials. We also are encouraging agencies to add modems in their forthcoming budgets since most programs already have computer support. Finally, through the student participation in the Social Work curriculum at NMSU, state agencies will begin to hire professionals who are already computer literate and familiar with the telecomputer network.

We are confident that through our continued efforts and the efforts of others linked to the system around the state that those who are resistant will see the value of belonging to a living channel of dialogic communication.

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4. CUSSnet, Message #109. Note: Even though the BBS is public record, we are still reluctant to include names in this paper. Any researcher with access to the BBS can find this information and much, much more. All one needs is a computer and a modem. (505) 646-2868.
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## Technology and the United Way Movement, By Douglas E. Warns, Ph.D.

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### Introduction

This paper discusses the existing software and technology being developed and used by United Way organizations in the United States of America. These technologies include software and systems that run on personal, mini, and main-frame computers. The software applications include fund raising, planning, fund distribution, marketing, survey research, communications, demographic analysis, and strategic planning. In addition, the Human Care Network, which is a national network that links human care agencies and individuals to a national data base and bulletin boards, is described.

The paper introduces the United Way in terms of what it is and how it operates in the United States. The United Way is in fact one of the largest voluntary movements in the United States. Relative to technology, the National United Way organization has completed a study by volunteers from some of the major technology companies in the United States. This study presents the trends of technology and how United Way organizations can best use these evolving technologies.

### Technological Trends:

Forecasters continue to talk about the evolution of this country from an industrial society to an economy based on information. In fact, that evolution has already occurred; the Information Age is here. Now we are experiencing a technological revolution within the Information Age based on electronics.

There are many technology issues to consider and many technical problems to solve. But the integration of information and the universalization of the Information Age do not demand further breakthroughs in technology. There is no reason the integration of information cannot be accomplished by following the paths on which our technology is now traveling at an accelerating rate. Consider the technological trajectories of today:

- Microelectronics is providing cheaper and faster circuits and processors with greater reliability.
- Digital technology (digitization) is being rapidly deployed and will be the backbone of our "smart" networks.
- Photonics (lightwave transmission) is being rapidly deployed on a worldwide basis, providing the needed low cost and high capacity.
- Software that tailors systems to customer needs will become available.
- Artificial intelligence will aid decision makers.
- The above five technical advances are the key forces that will precipitate more powerful, more reliable, and lower--cost digital business systems and that will allow more flexible approaches to system design.

- The integration of computers and communications has already occurred.
- Computers that understand normal speech will be widely available in the 1990s.
- Expanding linkages will develop to unite incompatible machines and to provide flexible access to public databases, customer information, and other important data.
- Finally, the most important technical trajectory: Infogration. Information will be viewed as a strategic business resource. Information systems will no longer just support operations; they will combine with core business objectives and become a pervasive force that touches every aspect of business in its quest for information.

Therefore, with regard to United Way, the committee arrived at these findings:

- United Way business is fundamentally information and communications driven; information must be handled in the most efficient and effective way possible for United Ways to survive and grow.
- The quantity of and demand for information is increasing and the supply of quality support people is decreasing; technology is reaching a point in price performance where it can affordably address these.

The committee recommends that local United Ways do the following:

- Develop an organization--wide information processing strategy, targeted to meet specific core strategy goals.
- Initiate a technology study to identify the spectrum of broad requirements that new technology might be utilized to address. This should be needs drive. An opportunity assessment tool has been developed by the committee and is in Appendix A.

United Way of America, furthermore, should:

- Work with local United Ways to keep technology affordable.
- Set a hardware and software standard for using its Human Care Network.
- Serve as a model for technology use.

**Management and Organizational Considerations:** United Way's business is fundamentally information and communications driven. It makes no "product" that could generate revenues. It conducts its daily business via the functions of campaign, finance, allocations, research, strategic planning, communications, government relations, and marketing. Information is its key raw material, information analysis and interpretation are its basis for action, the timely communication of the results is its basis for raising contributions, providing ultimate services for the needy, and marketing various administrative services to United Way--supported agencies.

Consequently, failure to employ new technology may result in increased labor costs, reduced opportunity to market revenue--producing services, and missed opportunities to increase contributions. Over--aggressive utilization of technology without a return, on the other hand, may result in increased administrative costs that could, in turn, ultimately reduce services available to the needy. The key to technology lies in the careful study and planning for its use.

The general findings on management and organizational issues show the following:

*Consequently, failure to employ new technology may result in increased labor costs, reduced opportunity to market revenue--producing services, and missed opportunities to increase contributions. Over--aggressive utilization of technology without a return, on the other hand, may result in increased administrative costs that could, in turn, ultimately reduce services available to the needy. The key to technology lies in the careful study and planning for its use.*

- The application of new technology should allow one of these projects:
  - » Cost--reduction projects
  - » Cost--avoidance projects
  - » Increased--revenue projects
  - » News--services to agencies
  - » Increased--revenue projects--contributions.
- Standardization of hardware and software will allow for cost savings in software, hardware, and training.
- For technologies to be used, top management must be involved in the development and the implementation of a strategy to improve professional support systems.

United Way organizations should consider doing the following:

- Where economies of scale can be realized, services should be centralized, (e.g., through a national computer network and regional service centers).
- Develop education for technology management because technological changes are occurring with increased speed.
- Establish an organization policy on information technology. (Information is a resource.)
- Develop information counselors and tutors who can relate to users and teach them how to use the new technologies.
- Develop programs for new technologies that are continuous in nature.
- Adopt an organizational attitude of willingness to experiment.
- Make maximal use of vendors' educational assistance.
- Measure the productivity of office workers to ensure that technology investments are providing acceptable benefits.
- Apply new technology to improve fund raising and to keep costs low.
- Periodically assess technology opportunity.

United Way of America should take these specific actions:

- Establish a standing committee of the Strategic Planning Committee to continue dealing with the challenge of new technology.
- Incorporate technology management training in its present management programs.

- Develop training conferences or programs for similar users; continue and expand the application of User Groups.
- Continue and expand both its nontechnical and technical newsletters to local United Ways.
- Provide technology topics and displays for professional and volunteer conferences.
- Use pilot cities to test new applications.

## UWA Software Inventory – Description of Products

### Compass

A comprehensive package which directs local United Ways to lead or conduct their own comprehensive community-wide process of needs assessment, planning, and action. Included in the packet are instructions for convening community leaders, initiating a comprehensive needs assessment process, and analyzing results using specially tailored software (similar to Quest). The packet also contains examples of survey approaches as well as guidelines for developing and using available social and economic data, and designing report formats.

### Human Care Network

A nation-wide telecommunications network that has been designed specifically to help United Ways and other human service organizations communicate and share information among themselves and the United Way of America quickly and efficiently using IBM's PROFS (Professional Office System). In addition, users have on-line access to many national data bases currently maintained by United Way of America, such as campaign data bases, strategic planning, and government relations data. Users can manipulate the Comparative Cities (Network version of Mainstreet) and PROJECT FLAGSHIP<sup>TM</sup> data bases using SAS (Statistical Analysis System) or can access on-line data such as the Dow Jones Information Services and InfoMaster.

### Information and Referral Data Base System (IBASE)

Software package for microcomputers enables users to store and quickly retrieve information about various agencies and services available within a community. The data base system can be customized enabling users the flexibility to track all locally relevant information in their data base. The software generates mailing labels and agency directories (sorted as the user chooses), plus has the ability to generate ad-hoc and specially designed reports. Software is available for use on IBM PC or compatibles and the Apple IIe.

### Mainstreet

PC-based software package enabling users to generate special analyses on over 90 social and economic indicators (such as age, income, education, mobility, occupation, trade group, and poverty) grouped by solicitation area. Users can develop socioeconomic profiles for their own community and compare results with those of almost 300 communities across the country. The national data base is accessible on United Way of America's Human Care Network (using SAS) giving users additional analytical and reporting capacity.

## United Way of America Software Inventory as of Fall 1989

Software	System	Primary Function(s)	Local Applications	Special Features
COMPASS	IBM-PC or Compatible  ABtab	MARKET RESEARCH COMMUNICATIONS	<ul style="list-style-type: none"> <li>* Community Perceptions</li> <li>* Attitudinal Research</li> <li>* Resource Deployment</li> <li>* Market Segmentation</li> <li>* Needs Assessment</li> </ul>	Compare local with national results. Use software to conduct cross-tabulation analyses on own local survey analyses such
HUMAN CARE NETWORK	Dial Access	INTER-PERSONAL COMMUNICATIONS RESEARCH PLANNING GOVT. RELATIONS	<ul style="list-style-type: none"> <li>* Inter-City Networking</li> <li>* Electronic Mailbox</li> <li>* Scheduling</li> <li>* Access National Data</li> <li>* Cross-City Data Analysis</li> </ul>	Access UWA data, including campaign; strategic planning; govt. relations; research; Comparative Cities; and PROJECT FLAGSHIP. Access public info, i.e., Dow Jones, InfoMaster. Register with NAV or place order with Sales Service through elec. mail.
INFORMATION & REFERRAL DATA BASE SYSTEM (under development)	IBM-PC or Compatible/ Apples	INFO & REFERRAL PROGRAMS	<ul style="list-style-type: none"> <li>* Agency/Svc. Retrieval</li> <li>* Agency Directory</li> </ul>	Adapts to UWASIS. Use on any PC. Can design own data base and data entry screens.
MAINSTREET	IBM-PC or Compatible  RBASE 5000 (Run Time)	MARKET RESEARCH COMMUNICATIONS PLANNING FUND DISTRIBUTION	<ul style="list-style-type: none"> <li>* Planning</li> <li>* Strategic Planning</li> <li>* Key Markets</li> <li>* Market Segmentation</li> <li>* Comm. Problem Solving</li> <li>* Needs Assessment</li> </ul>	Cross-city analyses. Data available on HCN.
MARKETPLACE	IBM-PC or Compatible  RBASE 5000 (Run Time)	CAMPAIGN MARKET RESEARCH	<ul style="list-style-type: none"> <li>* Campaign Potential</li> <li>* Assess Camp. Performance</li> <li>* Market Segmentation</li> <li>* Market Penetration</li> <li>* Comm. Economic Profiles</li> <li>* Key Markets</li> </ul>	Cross-city analyses. Data available on HCN.

RESOURCE DEVELOPMENT SYSTEM (RDS)	S/36	CAMPAIGN	<ul style="list-style-type: none"> <li>* Track Campaign Dollars</li> <li>* Deferred Giving</li> <li>* Donor Choice</li> <li>* Special Events</li> <li>* Direct Mail</li> <li>* Pledge Cards</li> <li>* Assess Camp.</li> <li>* Goal Development</li> <li>* Strategic Planning</li> </ul>	Track indiv. & org. accts. Organize by indivs., orgs., divisions, trade groups, giving history, etc. Can create local FACT codes. Can manipulate and analyze Performance campaign data and generates ad-hoc reports. Electronically creates UWA's Data Base I and II.
VOLUNTEER DEVELOPMENT SYSTEM	S/36 MAPS VACs	CAMPAIGN	<ul style="list-style-type: none"> <li>* Volunteer Activity</li> <li>* Volunteer Profile</li> <li>* Skillsbank</li> </ul>	Manage and analyze volunteer data. Target mailings. Link volunteers for special projects. Integrated with RDS.
FINANCE MANAGEMENT SYSTEM	S/36	FINANCE	<ul style="list-style-type: none"> <li>* General Ledger</li> <li>* Accounts Payable</li> <li>* Accounts Receivable</li> </ul>	Integrated with RDS.
PROJECT FLAGSHIP	IBM-PC or Compatible  KnowledgeMan	FUND DISTRIBUTION AGENCY RELATIONS PLANNING GOVT. RELATIONS CAMPAIGN	<ul style="list-style-type: none"> <li>* Resource Allocation</li> <li>* Identifying Outcomes</li> <li>* Comm. Problem Solving</li> <li>* Planning</li> <li>* Local Agency Mgmt.</li> <li>* Lobbying</li> </ul>	National data base on HCN to conduct cross-city analyses. Generate flexible reports using agency financial, staff/client, govt. detail & foundation data. Generates UWA's Fund Dist. Survey.
QUEST QUEST II	IBM-PC or Compatible  ABtab	MARKET RESEARCH COMMUNICATIONS	<ul style="list-style-type: none"> <li>* Community Perceptions</li> <li>* Attitudinal Research</li> <li>* Resource Deployment</li> <li>* Market Segmentation</li> <li>* Needs Assessment</li> </ul>	Compare local w/national results. Use software to conduct cross-tabulation analyses on own local survey analyses such as pledge card surveys.
UNITED WAY AT WORK (under development)	IBM-PC or Compatible	WORKPLACE PRESENCE	<ul style="list-style-type: none"> <li>* Schedule of Events</li> <li>* Provider Roster</li> <li>* Volunteer Roster</li> <li>* Program Roster</li> </ul>	Design compatible with RDS.

## Market Place

PC-based software package allowing users to perform analyses of local business establishments by trade, size, and by payroll. Users can develop business profiles for their own community and compare results against a backdrop of almost 300 communities. Both Mainstreet and Market Place are products emanating from United Way of America's Comparative Cities Project and are designed specifically to complement each other.

## Project Flagship

A systematic approach enabling United Ways to develop a local data base on human services in their community. PROJECT FLAGSHIP is designed to allow United Ways and their member agencies to automate and standardize their allocations and planning information including proposed, revised, and actual program-level data on funding patterns and clients served. PC-based software enables users to maintain the data and quickly generate standard and customized reports for a variety of purposes including planning, allocations, and campaign.

Local data bases can be expanded to include all agencies within a community, not just United Way-funded agencies, and can support area-wide arrangements. Data from participating communities will be collected to build a national data base of human service agencies which will be accessible to participating communities. Special features include:

- Generate flexible reports using agency financial and demographic data.
- Generates United Way of America's Fund Distribution Survey.
- National data base on Human Care Network will allow for cross-city analyses.

## Quest

A self-contained package enabling United Ways to conduct their own market research. The package includes: a standard questionnaire, designed to identify attitudes toward, and knowledge of, United Way—ideal for communications, campaign, allocations, and workplace presence programs; the Quest manual providing instructions on survey research techniques; and a primer on statistics. Quest also includes a national data base of results from more than 4,000 surveys enabling users to compare their own Quest data with the national findings.

Quest runs on ABtab—a PC-based software package designed to provide data analysis, including cross tabulations, frequencies and tests of statistical significance. Users can also use the software to design and analyze other research projects involving survey data. The software can be used to analyze data from any questionnaire the user wishes to design.

## Quest II

A self-contained package designed to assist United Ways in reaching untapped markets, specifically entrepreneurs, small businesses, and professionals. The package includes: two tailored questionnaires, designed to listen to hard-to-reach markets—specifically identifying how these potential donors want to be approached and how they prefer to give; a tracking system to monitor market penetration and giving behavior over time; the Quest II manual, providing instruc-

tions on survey research techniques and how best to use the tracking system to your advantage, and a primer on statistics.

Quest II also runs on ABtab—a PC-based software package designed to provide data analysis, including tabulations, frequencies, and tests of statistical significance. Quest II builds on the model of Quest, though it is not necessary to be familiar with Quest to use Quest II.

## Second Century Management Systems (SCMS)

Developed for use on IBM System 36 (models 5364, 5362, and 5360) includes a series of integrated software modules similar in design and concept. Programming allows for flexible report generation plus interaction with IBM's Query function and DisplayWrite 36 (word processor). The modules can be purchased together or separately.

**Resource Development System:** The Campaign Resources component of the SCMS maintains information on organizations (corporate and workplace); individual givers; and agencies participating in United Way fund raising activities. Specifically, the system tracks pledges, donor designations, pledge billing, and cash receipt processing. The campaign data can be organized by year, structure (division, group), type (UWA or CFC), and subtype (corporate, employee, key executive, etc.).

**Volunteer Development System:** Automates the function of maintaining basic information normally required by local United Ways on volunteers, including address, education, training, history of volunteer activities, and skills. In addition to maintaining volunteer lists and generating reports, the program enables the user to generate labels and letters based on information contained in the system.

**Finance Management System:** Integrates the basic financial functions of a local United Way, including general ledger, accounts receivable, and accounts payable.

## United Way at Work

PC-based software maintains information regarding organizations (corporate and workplace); service providers; and workplace presence programs. Software is specifically designed to support the scheduling of events. Also, the system provides reports for scheduling and listing of organizations, providers, programs, and volunteers. System is part of United Way of America's New Dimensions Program and is similar in design to the Second Century Management Systems Software.

### Rule of thumb # 8

Backup based on the amount of time you can afford for reconstruction. For example, if you can afford to pay only 1 day's wages to reconstruct the system backup daily. If you can afford 7 days wages, backup weekly.

Source: Bill Butterfield

### Rule of thumb # 9

Hardware tends not to operate under pressure.

## Computer Conferencing in the Classroom — A Group Intelligence Study by Edward M. Wondoloski, C.P.A.

Edward M. Wondoloski is Professor of Management, Bentley College, Waltham, MA 02154-4705

### The Overview

Communications technology using a PC (personal computer) and "CAUCUS", a computer conferencing software package, now provides the opportunity for any educator with a PC, telephone and modem, to host a conference.

CAC (computer assisted communication) provides a multi-dimensional approach to knowledge. This spherical theory displaces the "up and down linear ladder" concept with the concept of dimensional "in and out". (Glenn) To quickly grasp this concept, imagine yourself as a revolving sphere, now from your center point, wherever that may be, imagine an infinite number of rays extending in all directions, all with varying extensions and colors. Imagine each ray being a different aspect of knowledge. Imagine each ray as it extends as far as you have developed that particular aspect of knowledge. Imagine your knowledge ray of mathematics, and now add the ray of personal relationships, then art, and music. Keep adding these rays of knowledge. Notice how they complement each other, how they create a dance and long for further extension and synthesis to form the great white light. What you have just envisioned is the spherical theory of knowledge. This knowledge base theory is now further evolved through the CAC process.

Seven groups ranging between seven to ten students interact with each other in a collaborative fashion for the purpose of creating an informational product called "cultural smile" (Space Migration for Intelligent Life Extension). This informational product is a model that addresses the social, economic and political systems to be employed in space colonization, for the purpose of closing the gap between the human condition and the human potential. An HP Vectra PC serves as the host computer for the communications network. Students with modems and PC's of all variations call into the host computer and a traditional educational delivery system is transformed into a virtual classroom, open 24 hours a day, 7 days a week, for asynchronous, dynamic interaction of human thought and creativity.

Robert Mueller, chairman of the board of A.D. Little, stated in an interview with the "Networking Institute",

*"Organizations as we know it are obsolete in the information society in which we now exist.....human networks are thriving while our staid and rigid organizations heave and struggle to be effective or even to survive. Something fundamental is happening in our organized society ....centered on the intuitive notion that somehow in some way networking may be the basic to organizing and managing people." (Lipnack and Stamps)*

It was in this same intuitive spirit that Cultural Smile was initiated. Holding the belief, that some how some way networking through CAC was the key to providing high quality educational delivery systems, focused on self learning experiences.

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Student reactions to this new media varied, but some responses were; increased motivation; felt more involved; a better learning experience; more student interaction; peer reviews were useful. Much still remains to be learned about this new delivery system along with its psychological effects, as academic and business communities both concurrently investigate this new potential for improved interactive communication.

This is the first of many experiments planned using this media. The purpose is to reach far beyond electronic mail and computer conferencing, by introducing the student to the experiential dynamics of the "electronic organization and expert networks". We are at the horseless carriage stage in development of CAC, with chat systems, e-mail, bulletin boards, computer conferencing, all visible and ongoing in our daily lives. At the threshold, something we have just started to experiment with is hyperintelligence systems, electronic organizations, and student expert networks, as distinguished from expert systems, all participating through electronically linked networks with decision support and related knowledge base systems.

### Computer Assisted Communication — The What/When/Where/How

**The What** CAC has developed over time to be the generic descriptor of the concept of electronic human organization or expert networks. There are however several levels associated with CAC. I present these levels here in the succession of their increased sophistication and additive encompassed features.

- Chat systems are distance independent--participants can be anywhere.
- Electronic mail (e-mail) is time independent--no coordination of schedules is required.
- Bulletin boards are topic oriented--notes directed to topics, not people, are posted for the interested population.
- Computer conferencing extends topic structure with personalized activity tracking.

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*CAC has developed over time to be the generic descriptor of the concept of electronic human organization or expert networks.*

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- Many to many communications adds topic branching, allowing subgroups to form organically.

- Electronic organization includes structural access options. Some applications examples are; project coordination of plans, tasks, teleconsultants; sales management, tracking leads, prospects, customers; customer service responding to inquiries efficiently; online markets involving buyers, sellers, dealers, financiers; interactive journals, co-authoring, on-line reviewers; distributed education via electronic lectures, and networkshops.
- Expert networks build knowledgebases through communication.
- Participation systems include dialogue/decision tools such as polling and modeling.
- Involvement extensions go beyond computer boundaries using hard copy print and other interactive media as extensions of on-line communication. Theobold's networking system is an example of such a system. (Stevens)

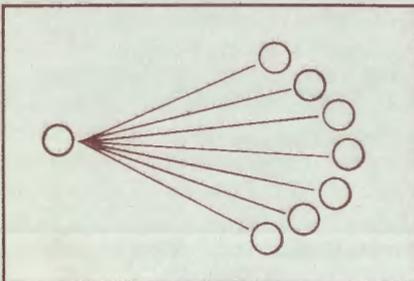
**The When and Where** CAC was introduced in the Spring of 1987, in an undergraduate course called "The Management of Planning and Control Systems". There were two sections that were involved in the experience. The class was charge with creating an informational product called "Cultural Smile". This product in effect was to serve as the model for the pioneering and development of space colonies. Political, economic, legal and social systems needed to be developed to support the model. These systems were then to be aligned with the class's overall visioned purpose for such space colonization and exploration.

*The class was charge with creating an informational product called "Cultural Smile". This product in effect was to serve as the model for the pioneering and development of space colonies.*

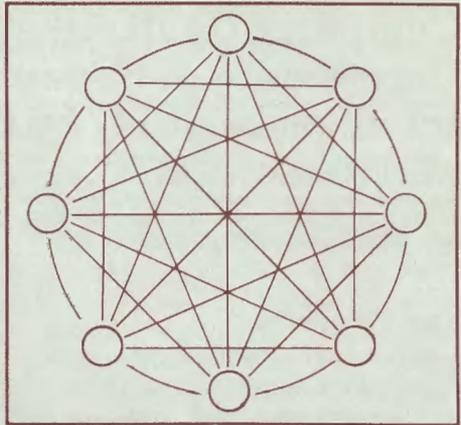
The class formed into seven groups to facilitate the completion of the assignment. What normally under such circumstances might look like the Figure below. Because of the use of CAC, the traditional structure was transformed into a virtual seven day a week inter- dynamic exchange that looked like the Figure in the 2nd column above.

**The How** The how that made it possible was the result of a "new engine" for the communications revolution. CAUCUS--A gem at the bargain price of \$350, but with the Educom 50% discount, it was a steal at \$175. As Frank Burns of MetaSystems Design Group, a pioneer in CAC stated,

*"The simple truth about CAUCUS caught our attention immediately when we first got our hands on a copy of the PC version. The PC version means that the technology for personal conferencing has arrived. CAUCUS is a richly designed and powerfully implemented computer conferencing program that can be installed on a PC. I understood the truth of CAUCUS right away it seemed.*



*But I must admit however, the implications of the truth of CAUCUS has boggled my imagination more and more each day since we've had our CAUCUS system up and running. I can't keep up with the expanding ideas about CAUCUS*



*applications that pop into my head every day. Our conversations at the MetaSystem Design Group have excited all of us." (Burns)*

*CAUCUS is a richly designed and powerfully implemented computer conferencing program that can be installed on a PC.*

This piece of software is superior in design, easy to learn and use, easy to control, reliable, transportable, easy to customize, its fun and I love it! In addition to all the above it is easily upgradeable, and is written for just about all PC machines. When the time is right here at Bentley, I certainly see it running on one of our 9500 Primes, and handling all the CAC needs for the entire Bentley Community. With the Educom Discount this would be a reality at the CAUCUS software cost of \$3,500.

## The Result

An interactive communications and learning space was created. The traditional classroom was now converted into a virtual classroom, conducting business and resonating with energy seven days a week. The geographic and time zone restrictions were removed. This facilitated conducting the business meetings because students were able to check in at a time and place of their choosing. There were simultaneous discussions of different thoughts and strategies. Students were able to discuss a wide range of topics and the comments were automatically organized and retained under their respective topics. A printable record of the process was retained for subsequent review by the students. This greatly facilitated their preparation of individual learning reports.

Brainstorming and problem solving were being facilitated and supported. Creativity was enhanced by an environment which openly allowed for the suggestions to be considered. This opportunity to toss ideas around, play with them, develop and build on them, created a stimulating atmosphere for still further exploration and inquiry. A distributed form of learning took place. The relationship between the whole and each part of a network is different from that in a hierarchical organization. In a network, leadership and the ability to initiate activity is distributed among the parts which must be self-sustaining because there is no central authority to depend on. The Cultural Smile focus groups were the source of the projects activity and leadership. In fact, Cultural Smile is really defined by the activity of the focus group--each

group was able to view who they are by looking at what they focused on. (Bunting)

The holon concept was evident in the Cultural Smile focus groups. They functioned as Parts/Whole. They operated independently and at the same time operated as part of the whole Cultural Smile network System. The term Part/Whole, is used in relation to networks to reflect the idea that parts of a network--like Cultural Smile's focus groups--can operate independently and, at the same time, operate as part of the whole network system. The focus groups had developed separate agendas for action and pursued those agendas on their own. In fact, any one of the focus groups could accomplish a great deal even if the rest of Cultural Smile didn't exist. At the same time, each group is really working on a different facet of Cultural Smile's mission and can gain strength through working synergistically with other groups.

### CAC—Computer Assisted Communication—Why

There is a need to review the beliefs and premises that underlie our current educational system. These beliefs and premises held by B.S. Bloom are:

- In any field there is a core knowledge that must be taught;
- Once the core is mastered, the capacity for critical thought can be taught.
- Deficiencies in any field are caused by a lack of instruction in the core, a lack of instruction in critical thought, or both, and can be corrected by the right faculty committee making the correct curricular decisions to fill in the gaps.

Now, Naisbit has been quoted as saying we are currently in the midst of an informational explosion. Our body of knowledge is doubling every 20 months. Well folks at that rate of growth, guess what? By the year 2000, our common body of knowledge would have increased 512 times over what it is today. This statistic very seriously puts a strain on Bloom's first premise. That premise being a core of knowledge must first be taught before critical thought can begin. We have a serious flaw in the underpinning.

Some faculty have coped with this dilemma by seriously and in many cases single handedly taking on the responsibility of sifting, sorting and distilling for the student. An assignment which leads to premature professional burnout and seriously questions the role of student in this whole process of information explosion. When does the student become self sufficient in ferreting out relevance from the maze of information? Where and when does the student develop the necessary skills to process, sift, sort and distill on his/her own account from the mounds of information which is gathering dust. We have truly developed the capacity to manufacture information in excess of our ability to consume it.

The above scenario reinforces the following paradox.

*"He had attempted to maintain a broad scope of the profession. He read every journal, attended meetings in several disciplines, and found that through the years he knew less and less about more and more, until he knew absolutely nothing about absolutely everything. His modern contemporaries on the other hand took a different approach to the challenge, they specialized. They delved deeply into one narrow component of the profession. As they continued their studies they began to know*

*more and more about less and less, until they knew absolutely everything about nothing. Through completely different routes, they had both arrived at the same destination."* (Bushby page 16)

Does this scenario ring home folks? I sure know it did for me. Fortunately we do have other options available to resolve this informational paradoxical dilemma. One suggestion is a process oriented solution, employing the multi-dimensional spherical approach to knowledge base systems. Here students, in a guided process oriented environment, create their own model or system for employing their skills to sift, sort, and distill information. The professor rather than doing the work for the student provides the student with process systems skill which empower the student to perform these functions.

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*Here students, in a guided process oriented environment, create their own model or system for employing their skills to sift, sort, and distill information.*

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One such process orientation model is presented by Robert Theobald in what he calls his Knowledge Systems Based Model. He contends and I agree that the current activity in human networking or Expert Networks, contains the genetic code for a profoundly different way of structuring knowledge. The problem being that we don't yet know how to understand it or work with it. But there again, is that not where all of our great technological breakthroughs also began? It is Theobald's belief to which I subscribe, that the following criteria are an essential beginning of a Knowledge System.

- the system which develops, will have to help people clarify the questions with which they are struggling rather than providing them with slick answers.
- in many cases the key skill will be the development of a broader context in which it becomes possible for discussion to take place between people who have very different views.
- once this broader context has been agreed as valid--in other words everybody accepts that we are talking about the right issues--it becomes possible to sort out the agreements and disagreements with some clarity.
- it is suggested this broader context occurs at the intersection of the social and the spiritual base.
- effective work can only be done when there is an attitude of hopeful realism--this implies that people are willing to look at reality and to realize that it can be changed by effective reconceptualization and action. These are two sides of a single coin--one of our current problems is the assumption that they are separable.
- any system of knowledge must be accessible at all levels (i.e. the spherical theory) and must draw people into other levels as fast as they wish to do so. But it must not force people to proceed faster than they can manage.
- there must be a mesh between heart and head activities, both hard study and emotional interaction are required for effective learning. (Theobald)

Computer Assisted Communication supports Theobald's model. CAC through its messages, notes and conferences,

provides the opportunity for people to inform, question and touch one another. A community develops and along with all

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*CAC through its messages, notes and conferences, provides the opportunity for people to inform, question and touch one another.*

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the rational content an emotional color and drama is evidenced. A personal empowerment comes to life, which facilitates the closing of the gap between the human condition and the human potential. The human potential, containing the ultimate core of knowledge through a simultaneous engagement in critical thought. A pure mastery brought about through the human genetic evolution.

## The Future Potential

PC's have transformed the power of computers to the individual. Cellular communications technology will allow for individuals to communicate with one another without having to channel through large inhibitive communication systems. When we combine these two technologies and sprinkle in such economically powerful communications software as "CAUCUS", we have what Naisbit has termed "simultaneous globalization and individualization". (Naisbit) We will have the ability, through appropriate technology, to connect with one another throughout the world on a one-on-one personalized individualized basis. We are in an era of information explosion. CAC, a network of humans interacting with appropriate technology, can provide the expert networks necessary for the conversion of all this information into a meaningful and directive knowledge base system.

This participatory democracy at both the political and work level, which is currently emerging, will be greatly enhanced through the supportive opportunities provided by cellular communications. Differences will not only be an acceptable ingredient of our global culture, but will be the cornerstone for the evolution of an hyperintelligence. (Bugliarello) This dramatic extension of the power of the brain, facilitated by computer networks, will create a global holonomy. (Stamps)

The interconnection of these millions of computers with their users, is the initial step in our ability to sense, reason, and remember as a global community. The holon theory of parts/whole is certainly in evidence here. Consider the immense potential power of our global community network. We start with one human brain, where every node is a neuron, and expand that outwardly into a network where every node is now a human brain augmented by a computer. The potential is awesome.

In a free association of individuals, these nodal points become social, political and/or economic sensing devices. They created greater human awareness as people throughout the globe are connected and form an infinite number of subgroups through common interests, in a natural organic fashion. Through a consensus agreement of the issues, the massive power of this hyperintelligence can be employed in

problem solving the life sustaining issues that confront humanity.

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The electronic classroom will be expanded to include students from other courses, other institutions, and other countries. Interdisciplinary team teaching will be a natural outflow through this media. The opportunities are limited, but by our ability to visualize new creative applications.

Finally this broader context within which hyperintelligence functions, could very well be the vehicle which once again would unite humanity with the natural law. Thereby bringing humanity into alignment and balance with the gestalt of IT.

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## Are you developing or using Computer Games?

If so, contact Hy Resnick who is pulling together a special issue of the *Journal Computers in Human Services* on computer games. Hy is interested in corresponding with game users and developers. For more details, contact Hy at the U. of Washington, 4101 15th Ave. N.E. JH-30, Seattle, WA (206) 543-5640.

# CUSSNet—CUSSN's Electronic Network

## Overview

The electronic component of the Computer Use in Social services Network (CUSSnet) establishes local bulletin boards, local and international mail and file transfer, conferencing, and repositories of electronically available information. CUSSnet builds on a network of about 6000 local bulletin boards (FIDO, OPUS, etc.) around the world which automatically exchange information. Usually no fees are charged except for long distance mail.

## To Use CUSSnet

If a BBS carrying the CUSSnet conference (echo) is in your city, you're in luck. Simply dial it up using your computer and a modem and follow the directions. If no CUSSnet node exists in your city, call long distance to the DD Connection (817-640-7880). Check message area 8 which contains the CUSSnet echo. Look for messages from CUSSnet users located near you (you may want to learn to use a BBS by calling a free local node.) To locate a local FIDO or OPUS BBS, ask your local microcomputer dealer. You can use a local node to send mail and pick up whatever CUSSnet information your local BBS operator will get for you. You may have to pay a small deposit to your local node for long distance mail. Communications are at 300-2400 baud, 8 data bits, 1 stop bit and no parity. Almost any computer or terminal and modem will work.

## Examples of Message, File, and Conference Areas on CUSSnet

- **Message Areas:** Local mail (public and private); International mail; and conferences on human services, psychiatry, addictions, disabilities, Vietnam Veterans issues, AIDS, Violence, etc.
- **File Areas:** Files related to mental health, developmental disabilities, welfare, health, training, games, and utilities.
- **Conference Areas:** Alcoholism and Drug Abuse; National AIDS National Discussion; Child Abuse; Disabled Interests; Fire/EMS; Grand Rounds National Medical Discussion; Holistic Health National Forum; Medical Ethics; National Psychiatry; National AA Meeting; Physicians Only National Conference; Spinal Injury; Social Services; Stroke/CVA National Discussion; Diabetes.

## Nodes Carrying the CUSSnet Conference:

Net/Node	BBS Name	City & State	Sysop	Phone
10/300	Bruce's Board	Barstow,CA	B. Hartsell	619-252-5150
11/301	Fido-Racer	Murray,KY	B.Allbritten	502-762-3140
13/1033	NY Transfer	Staten Island,NY	B.Richards	718-448-2358
104/51	P2_B2_S	Denver,CO	C.Warren	303-329-3337
106/12	SoundingBoard	Spring,TX	M.Bleecher	713-821-4148
109/507	Hd_Start RC	College Park,MD	D.Mohney	301-985-7936
109/512	Nat_Headstart_BBS	Hyattsville,MD	S.McBride	301-985-7923
119/13	LINKS.BBS	Chico, CA	T.Baughman	916-343-4422
114/15	St_Joes_Hospital	Phoenix,AZ	D.Dodell	602-235-9653
129/75	Ecclesia_Place	Monroeville,Pa	L.Pascazi	412-373-8612
130/10	DD Connection	Arlington,TX	T.Jones	817-640-7880
132/111	On_Line_NH	Concord,NH	D.Hall	603-225-7161
138/35	HDS_Univ_Of_Wash	Seattle,WA	C.Ritchie	206-543-3719
141/420	The_Handicap_News	Shelton, CT	B. McGarry	203-337-1607
150/101	Black_Bag_BBS	Newark,DE	E.DelGrosso	302-731-1998
151/101	EQUAL	Raleigh,NC	M.Bowen	919-851-6806
170/301	TBBS-Tulsa	Tulsa, OK	F. Grant	918-687-3276
267/41	The_HOST_BBS	Glens Falls,NY	R.Calloway	518-793-9574
305/101	NASW_New_Mexico	Las Cruces,NM	M.Connealy	505-646-2868
321/109	Pioneer_Val_PCUG1	Amherst,MA	M.Sternheim	413-256-1037
321/203	VETLink#1	Pittsfield,MA	Gj.Peck	413-443-6313
381/5	Micro Applications	El Paso, TX	D. Gladden	915-594-9738
382/1	Crystal_Palace	Lake Travis,TX	M.Masterson	512-335-7949
382/5	Health_Link	Austin,TX	B.Baskett	512-444-9908
387/404	ACS_People_Connec	San Antonio,TX	B.Armstrong	512-349-5785
254/11	Poly_Opus	London,UK	E.McCabe	441-580-1690
255/64	UK_Healthlink	Wigan,UK	D.McKendrick	449427-22984
256/97	LogOn-In-Tynedale	Hexham,UK	J.Rawson	44-434606639
283/200	Datawerken_IT	Remmerden, Holland	M.Mazeland	318376-15363
512/120	STEBIS	Leiden, Holland	M. Gobes	31-71-320002
513/11	BB_BBS	Wijnegem,Belgium	D.Gevaerts	32-3-3536348
3:634/388	AXIOM BBS	Melbourne, Australia	A.Rajcher	61-3-500-0327

I wish to join/renew membership in the CUSS Network. Send to:

Dick Schoech, CUSSN, UTA, Box 19129 Graduate School of Social Work, Arlington, TX 76019-0129.

- In Australia send to Floyd Bolitho, La Trobe U, Social Work, Bundoora, Victoria, Australia 3083.
- In Austria, send to Mag. Monika Vyslouzil, Sickenberggasse 7/16, 1190 Wien, Austria.
- In England, send to Stuart Toole, City of Birmingham, Polytechnic, Dept. Soc. & Applied Social Studies, Birmingham, England B42 2SU.
- In France, send to Alain Mazet, 10, Boulevard Gambetta, 87000 Limoges, France.
- In Greece, send to Christine Vayes, EKLOGI Journal, Skoufa 52, 106 72 Athens.
- In India, send to Vidya Rao, Tata Institute of Social Sciences, Deonar, Bombay -- 400-088.
- In Israel, send to Menachem Monnickendam, School of Social Work, Bar Ilan University, Ramat Gan 52100, Israel.
- In the Netherlands, send to Hein de Graaf, Charlotte de Bourbonstraat 5,2341 VC Oegstgeest, Netherlands.
- In Switzerland, send to Armin Murmann, Institut D'Etudes Sociales, Rue Pre'vost-Martin 28' 1211 Geneve 4, Switzerland.
- In West Germany, send to Berndt Kirchlechner, Fachhochschule Fachbereich Sozialpadagogik, 6000 Frankfurt, Limescorso 9, Frankfurt A.M., West Germany.

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