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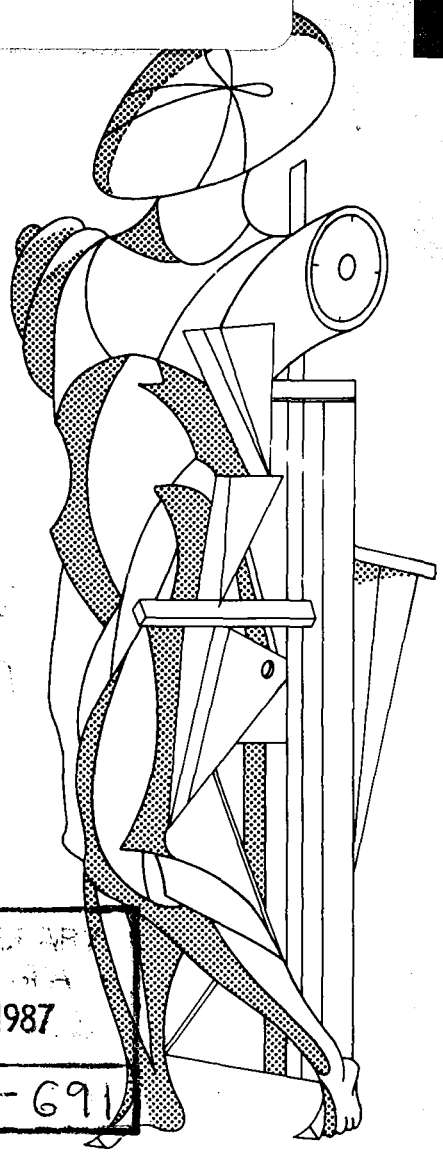

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EDITORIAL

This issue of CASW is devoted exclusively to non UK articles. This is partly to encourage our overseas subscribers to contribute to CASW but also to disseminate information to our British readers from sources which are not easily accessible in the UK.

I was fortunate enough to be able to visit the US of A this summer and meet with american aademics and practitioners engaged in the area of Computer Applications. In particular I wish to thank Acting Dean Kay Vail, Professor Brian Klepinger, Professor Walter LaMendola, Faculty and students of the University of Denver; Jim Cole of the Wallace Village Denver and Professor Dick Schoeck of the University of Texas for their hospitality.

Walter LaMendola Director of the University of Denver Graduate School of Social Work Information Technology Centreis to present a Keynote paper at CASW 86 next March and he has asked me to arrange a visits schedule for him during his stay. Please let me know if your agency (in the UK) would be interested in meeting Walter.

Stuart Toole

REMINDER

DRAFT OUTLINES FOR PAPERS TO BE PRESENTED AT CASW 86
ARE REQUIRED BY DECEMBER 20 1985

Post to:
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Computer Users in Social Services Network

is a quarterly newsletter edited by Dick Schoech of the University of Texas at Arlington, PO Box 19129 Texas 76019. The cost is $10 p.a.+ more for those willing to provide additional support. Please make cheques payable to CUSS Network indicating if you do NOT want your name to be provided to those interested in using the CUSSN mailing list.
NOTE This is the US price It must cost Dick at least this amount to mail the Newsletter

The Catalyst

is a quarterly newsletter published by the Western Centre for Microcomputers in Special Education 1259 El camino Real, suite 275, Menlo Park. Ca 94025 USA. the cost p.a. is $10 for US subscribers and $20 for the rest. Cheques payable to Western Centre For Microcomputers in Special Education

DECISION SUPPORT SYSTEM FOR CHILD PLACEMENT

by

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The Continuum of Care Study is an inter agency effort designed to promote the co-ordination of public and private programs which provide residential care for children who do not live in their own homes with their parents or relatives. The goal of this study is to develop decision support systems which assist efforts to plan, organise, operate and evaluate a continuum of care for these children. A continuum of care can be said to exist when, for each child in care, an appropriate placement exists and when funding policies and placement practice result in a child's experiencing a series of increasingly less restrictive placements ending in a permanent home for each child.

The public agencies involved in the study include the Texas Department of Human Resources (TDHR), Mental Health and Mental Retardation (TDMHMR), the Texas Juvenile PROBATION COMMISSION (TJPC). Private agencies participating in the study represent the spectrum of private residential programs from least to most restrictive settings.

Methodology

The first phase of the study was completed in July of 1983 through the construction of computer based mathematical models of the existing system of residential programs for children in Texas. The sixty two residential programs now represented in these models are the programs most often

used by public agencies as resources for the children whose placements they fund.

The Data Base

The types of programs included in the models range from foster and adoptive families through group homes, half-way houses, basic child care programs, residential treatment centers, psychiatric hospitals and state training schools (reformatories). The records on the last fifty children admitted to each facility constitute the sample used to represent the types of children each serves with each child being described by the information known to the staff at a facility at the time of their decision to admit him or her.

The Computer Models

Statistical techniques then are used to model the admissions decision process, by relating the information known to the members of the admissions committee at each facility to the decisions they made - to admit the sample of children studies. The resulting computer models can predict the probability of any new child's admission to each facility in the model based upon each facility's pattern of previous admissions decisions.

The statistical procedures fundamental to the development of the computer models rely upon discriminant analyses. These procedures have been reviewed by the editorial board of the International Journal Children and Youth Services Review and accepted for publication therein.

Objectives

Accomplishment of the three objectives of the Continuum of Care Study became possible once the data describing the types of children admitted to different programs was assembled and the computer models, created with that data base were developed.

Objective 1. To profile the types of children admitted to each residential program in the data base.

Before participating in this study each facility is asked to agree that data describing the types of children they admit can be shared withother participants, and, to date all programs approached have agreed to this condition. These agreements make possible the achievement of the first objective through a computer program (software) called PROFILE. PROFILE describes the sample of children admitted to each program in the models. It is used, predominantly, to produce reports for participants in the study which identify key differences among the types of children admitted to different residential programs.

Objective 2. To match an individual child with residential programs to make this decision support system (DSS) available to caseworkers responsible for making child placements.

The software which contains this DDS for caseworkers is called MATCH. The placement recommendations produced by MATCH are calculated by four models. Two of these models predict the probability of a child's admission to each of the sixty-two residential programs now constituting the data base. The other two models predict the degree to which a child in question resembles other children, previously placed in those programs, who were judged by treatment directors to have benefited from their placement experiences.

Objective 3. The final objective of the Continuum of Care Study is to model the consequences of proposed changes to the existing system of residential programs for children.

The software being developed to accomplish this objective is called MODEL. In its current state of development, MODEL answers the question "WHAT IF...." illustrative of this capability is ananalysis done recently for the board and executives of the Texas Youth Commission. They asked "What if the populations of youth now in state training

schools were reduced by one-third; what are the chances that youth diverted from training schools would be admitted to other alternative programs; which programs are the most likely alternatives for these youth; and how many youth would be referred to each?

Another example of a "WHAT IF...." analysis, this time from the perspective of TDHR, could be proposed hypothetically. TDHR might ask a question such as "What if the in-home services projects developed in Iowa were replicated in Texas; what percent of children now in institutions or foster families could be maintained at home as a consequence and at what difference in costs?

Yet to be developed is another feature of MODEL, sometimes called "reverse WHAT IF..." or "GOAL SEEKING". In this case, the question posed is: IF one seeks to achieve a stated goal, WHAT preceding steps must be taken to ensure its achievement. In the context of residential child care, the question might be phrased as follows: If the State of Texas seeks to maximize the chances that each child in its conservatorship (or care and custody) will be placed in a residential program from which he or she will be placed in each type of program need to exist; how many children would be placed in each type of program at any given time; and, what budget would be needed to execute this option?

Summary

Where PROFILE and MATCH describe the operation of the existing service system as it is, MODEL has the power to simulate how it could or should be. MODEL is a decision support system for agency administrators, executives, board members and legislators. It gives them the ability to simulate alternative conception of the "ideal" service system, mathematically. The mathematical project screens for the system models reveal the probable consequences of actually adopting each alternative - in terms of shifts that would occur in the placements selected for actual clients and associated lengths of stay and costs. The screens for the system follow.

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EDUCATION/TRAINING

IBM PC Use for Child Abuse/Neglect Curriculum from Doug Nystrom, Office of Training, Illinois Department of Children and Family Services, Room 315, 160 No. La Salle St., Chicago, II 60601.

Co-workers and I will soon begin efforts to adapt child abuse and neglect training curriculum (eg how to investigate and identify child abuse and neglect) to computer assisted instruction (CAI), using IBM PC's and the Personal Computer Instructional System (developed by Computer Systems Research, Inc., but marketed by IBM) authoring software. Users will be staff of our statewide public child welfare agency.

We are seeking contact with persons who have engaged in earlier efforts with this same curriculum content, adapted to micro use. Our short-term goal is a limited field test of CAI; our long-term goal is delivery of a variety of agency in-house curricula which are developed on a micro and delivered throughout the state. Any advice regarding adaption of child abuse and neglect curriculum to CAI would especially help..

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CHILD WELFARE COMPUTER PROMTED INTAKE SYSTEM

by
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Goals:

Planning for the prompted intake system began in 1983. A test site was in full operation by October 1984. The goals of the prompted intake system are as follows:

To standardise procedures for collecting intake information in order to better the quality of the information base from which child welfare investigations can be made.

To obtain more consistency in the types of information collected throughout the State of Texas.

To more efficiently use the time of intake staff.

To reduce the cost of performing intake services by reducing the time it takes to transfer information from the intake point to the investigation worker.

To allow for the possibility of using lower level staff to conduct intake, thus freeing more experienced staff for investigations and other activities.

Structure

The Prompted Intake sequence is programmed in modules. The modules are:

1. Initial Statement
2. Demographics
3. Nature of Abuse
4. Victim's Condition
5. Degree of Protection
6. Perpetrator's Behavior
7. Closing Questions

The sequence will return to the beginning of the initial statement unless all questions in that module are answered. The demographics module requires at least a victim with sex, age and relationship entered. There are required items for every individual entered. If you have not entered one of the required items, the system will flash a message indicating which item needs to be entered. You will not be able to continue in the sequence until you enter the requested item, unless you activate the escape sequence.

The sequence will move through the last five modules even if the questions are not answered. However, after all the questions have been prompted, the sequence will return to the first module that has unanswered questions and progress through those modules with blank items until the items are answered. If the information to complete those modules is unavailable, activate the escape sequence.

Screen Definition

1. The top portion of the terminal screen serves two purposes. The name list of individuals involved in the incident are recorded there and will be visible to you during the referral process.The top portion of the screen is also the place to record narrative information. The name list will re-appear after the narrative is entered.

2. The middle section of the screen contains instructions on which keys do what. If you forget how to move around, check that section. The FS stands for the Front Shift key in the operating instructions. Press the front shift key plus whatever key is indicated to perform the stated operation.

3. The bottom portion of the screen contains the prompting questions, answer sections and demographic collection screen.

Note: It was not possible to reproduce all the screens mentioned in this report

This article was first published in CUSSN Vol 4 No4 Winter 84

REPORT ON TEACHING MICROCOMPUTER APPLICATIONS IN SCHOOLS OF SOCIAL WORK

by

Wallace J. Gingerich, PhD., Associate Professor, U of Wl at Milwaukee, School of Social Welfare, Milwaukee, Wl 53201.

Within the past several years there has been growing interest in incorporating microcomputer technology in social work education. Research faculty had been using mainframe computers for years primarily for statisical analysis, but the advent of microcomputer technology has made new applications suited to a variety of human service tasks practical. Because of this trend and the likelihood that within the next several years computers will become commonplace in social work settings, social work educators have begun to include general computer literacy as well as specialized computer-based applications in their courses. Yet, this is an area new to many of us, and one in which many of us feel the need to become competent as quickly as possible. To facilitate my own learning in this area, and to be of assistance to other educators in similar circumstances. I undertook a mailed survey of all undergraduate and graduate American schools of social work in late 1984. Letters explaining the survey were sent to all Deans and Directors, with the request that they pass the survey form along to their faculty teaching in the area. Respondents could list one or several courses they teach which include computer applications, and one or more teaching aids for each course.

To date responses have been received from 66 faculty members who currently teach 73 courses involving microcomputer applications and use 82 teaching aids or canned programs.

Although the survey asked whether courses were offered at the graduate or undergraduate level, this distinction now seems largely unimportant since the level of content of most courses in general computer literacy is indistinguishable. A number of more specialized courses,

such as management information systems and advanced statistics, do seem more suited to the graduate level, however.

Faculty were asked to indicate which of several human service applications were included in their courses. They responded as follows:

client/management information systems	27 courses
clinical assessment	14 courses
word processing	30 courses
research/statistical analysis	44 courses
budgeting and accounting	15 courses
decision support, expert systems	13 courses
telecommunications	7 courses
programming languages	11 courses
simulations	5 courses
computer aided instruction	11 courses
other	7 courses

The most common computer application among those who responded was research and statistical analysis; fully two-thirds of the respondents included this as at least one of the applications in their courses. Almost half of the respondents include word processing, and over a third included client or management information systems in their course. Thispattern corresponds roughly with what appear to be the most common applications in human service agencies, i.e., word processing, client and management information systems, and accounting and budgeting systems. It was interesting to note that a sizeable number of faculty respondents included clinical assessment (14) and decision support (13) in their courses. The former has been used for some time in psychiatric and medical settings, and the latter is beginning to show promise as an aid in processing large amounts of information to aid in making sound clinical and administrative decisions.

When it comes to teaching aids, or canned programs which are used to teach or demonstrate computer applications,

research and statistical analysis was again the most common. Respondents reported using many of the commonly available statistical programs for micro and mainframe computers. A variety of commercially available packages were mentioned in the areas of word processing, information systems, and budgeting as well as some programs written by the respondents themselves. Perhaps most unique are several spreadsheet models of agency budgets, several clinical assessment programs and a simulation of a human service agency.

Interested persons may request a copy of the complete report by writing to me at the above address. You may then contact directly the educator whose course or teaching aid interests you.

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Editorial Note

To my knowledge no similar information is available on UK or other countries outside the US. If you are interested in teaching / training Computer Applications to Social Workers in the U K Stuart Toole would be glad to hear from you. It is planned to hold a workshop at CASW 86 on this issue with demonstrations of USEFUL CAL software course plans etc.

MINUTES OF THE PLANNING MEETING
GREAT LAKES CONSORTIUM ON COMPUTERS IN SOCIAL WORK EDUCATION
November 19th 1984
Western Michigan University
Kalamazoo, Michigan

Present: Marilyn Flynn, Louis DiBello (University of Illinois-Urbana); John Flynn, Edward Pawiak, Danny Thompson (Western Michigan University); Keith Kilty, Chet Dilday (Ohio State University); Gerald Bostwick (Michigan State University); Michael Schiltz (Loyola University); Herb Yamanishi (Michigan League of Human Services).

The purpose of the meeting were (1) to exchange information about current uses of computers in the schools of social work and human service organisations represented (2) to identify problems and future needs of educators interested in computer applications; and (3) to explore the basis for continuing regional association.

Problems and future needs of social work educators were identified in four major areas:

CREATING A COMMUNITY OF INTEREST

Those present agreed that they felt isolated on their own faculties in exploring computer applications. The consciousness of colleagues, particularly those in direct service, needed to be raised regarding the potential of new technology. There is currently no mechanism for achieving this objective.

DEVELOPMENT OF AN APPLICATIONS CLEARINGHOUSE

Support must be provided to social service agencies in initiating and extending the uses of computers, including assessment of impacts on job design and work relationships. Software has for the most part been designed with private sector needs in mind and does not adequately respond to public sector requirements. This is particularly true in the area of fiscal packages. An applications clearinghouse would assist agencies in exchange of new knowledge and would be invaluable for

social work educators. New developments in MIS, CAI, and multi-user systems could be shared more systematically. Acquisitions strategies for schools of social work could be described and promoted. The applications clearinghouse would fill a major gap in technology transfer.

ASSESSING CURRENT IMPLICATIONS OF COMPUTER TECHNOLOGY FOR SOCIAL WORK EDUCATION

A mechanism is needed for addressing the full range of immediate organisational and educational variables which should be considered in the introduction of computers in schools of social work. Relations with other campus units -e.g., computer science departments - may be affected, or schools of social work may face unexpected political battles over space, hardware and course offerings. The concept of "computer literacy" must be closely examined for meaning and value to educational objectives. A rethinking of incentives for faculty participation in the design of software or the use of CAI in the classroom is necessary; present reward systems on most campuses do not reinforce this behavior. The introduction of computers should not be treated as an issue for one or two courses, but rather considered in light of the total curriculum - including field work. On-line and off-line materials must be thoughtfully integrated. And finally, the responsibility of schools of social work for raising the computer literacy of social services needs continuing emphasis. While the Council on Social Work Education might offer a forum for discussion of these issues, the group agreed that coherence and strength of focus is presently missing.

EVALUATING IMPACTS, FUTURE SCENARIOS AND NEW THEORIES ABOUT TECHNOLOGY

At the most fundamental level, more sophisticated and systematic thinking is needed about the most strategic or appropriate applications of technology in the classroom. The economics of dissemination and software production should be analysed. Improved understanding of how teaching effectiveness can be developed relative to traditional classroom technologies is essential. More analysis of

types of systems (mainframe, mini-, LANS) is crucial, so that trade-offs are understood. The problem of software piracy requires considerable analysis, because of its negative interaction with rewards for production. Private, public, and university roles in the development of software should be analysed. Barriers to implementation need to be more deeply understood. The composition of the "design team" is another variable which must be more fully considered. Ethics of computer use remains a perennial issue for the field. Construction of future scenarios about computer impacts in social work education and improved theories about the interaction of technology with human service organisations is greatly needed.

This article was first published in CUSSN vol 4 no 4 Winter 1984/5

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CASW 86

A CONFERENCE ON COMPUTER APPLICATIONS IN SOCIAL WORK

SPEAKERS INCLUDE

PROF. WALTER LAMENDOLA FROM U. DENVER

PROF. NORMAN TUTT FROM U. LANCASTER

WORKSHOPS

HANDS ON EXPERIENCE

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CENTRE FOR COMPUTER ASSISTANCE FOR THE DISABLED

"Ronald Ballard and Larry Adrian make a living with their computers. Eric Reed writes music with his. Billy Yaws only does simple programming and plays computer games, but then 16-year-old Billy is severely learning disabled and has such limited use of his hands that administrators told his parents there was no point advancing in school....."

"...all four men are handicapped. Ballard, Adrian, and Reed are quadriplegics, the result of accidents. Billy Yaws was born with a birth defect that inhibited his growth. And all four men have been helped by the Centre for Computer Assistance to the Disabled (C-CAD), a Dallas-Fort Worth non-profit agency with more heart than money, and goals that span the nation".

So reports Texas journalist John Dycus in describing the efforts of C-CAD to help the handicapped attain independence through the use of microcomputers. The organisation stems from the John Hopkins' First National Search for Applications of Personal Computing to Aid the Handicapped. Since 1981 C-CAD has developed many technological applications to overcome users' physical limitations in operating micro-computers.

Dycus relates the experience of C-CAD Director Jack Kishpaugh, himself a quadriplegic. "I've found the computer to be an intellectually stimulating companion. Someone who's disabled spends a lot of time alone. You can get off by yourself with one of these devices, and before you know it, you're doing magic - and you've hardly touched your potential for doing something productive.

"The handicapped are a tremendously under-utilized resource, at a time when computer costs are coming down and demand for computer skills is very high. There's a 40% shortfall of technician /programmer demand over supply. Why can't a physically impaired person, who's

otherwise very capable, be equipped to write programs in his home and send them to the company via a telephone hookup?

"Then the Texas Rehabilitation Association's 1982 Handicapped Texan of the Year answers his own question: There's no reason, as he sees it. No reason at all".

This article is reprinted from "The Catalyst" vol3 no 2 Winter 1985.

COMPUTHERAPY MIND

by

Neil Frude

Once I had a brain and a heart also; having tried them both, I should much rather have a heart." So spoke the Tin Man in L. Frank Baum's The Wizard Of Oz. In the end this proto-robot did not have to choose. He kept his brains and the silk-and-sawdust heart the Wizard gave him.

Currently there are researchers who are facing something like the Tin Man's dilemma. They are attempting to devise computer programs that will practice the delicate art of dealing with human emotional problems, a computerized version of psychotherapy. There is an obvious problem here. In their dealings with patients, human psychotherapists use both intelligence and empathy. There is no question computers have a formidable intelligence. But would it be possible for them to simulate human concern and empathy convincingly enough to become useful therapists? Some scientists believe so, and they feel that beneath the impersonal exterior of a metal-skinned micro there may someday lurk a sensitive, caring, programmed heart.

Psychologists have come to recognize that the therapeutic benefits of intimacy need not involve a fellow human. Telling even your pet dog about a problem can help. A trouble shared may be a trouble halved even if it involves only a machine. In a procedure pioneered by two brothers, Harvard psychotherapists Charles and Warner Slack, a person tape-records his unstructured self-talk for an hour or two, plays it back once, and then types significant parts of the "conversation" into a computer terminal. The computer program, modelled closely on the Slacks' own interview style as therapists, is designed to recognize emotionally charged words or phrases and responds by interrupting the self-analysis at appropriate points to ask, "Would you like to talk more about this ?" If the reply is "Yes," the client is instructed to continue talking into the tape recorder, which is automatically

switched on. The program was written to be especially warm and lifelike. When the person speaks of a sadness, for example, the video monitor displays the message

GOOD, WE ARE LISTENING TO YOU TALK ABOUT YOUR SADNESS.

In one of the Slacks' studies patients received half of their therapy from one of the brothers and half from the computer. In comparing the two experiences several people actually preferred the computer to a human therapist, and most reacted quite favorably to the machine. They spoke to it about their problems with frankness and emotion, and many felt that it had helped them. Two patients who had recently lost someone close to them even confided this fact to the computer ... but not to its human counterpart.

Not all computer-based psychotherapy depends solely on the healing power of listening. Just as some human therapists provide direction and suggest realistic solutions to problems some computer systems are designed to tackle psychotherapy as a problem-solving exercise. They bring their brainpower to bear on human emotional problems, and they present rational solutions. Morton Wagman, a University of Illinois psychologist, has developed a program for dilemma counselling. It is based on the idea that most of the problems people face can be stated in the form of a conflict among two or more different courses of action. The computer elicits such alternatives and then computes several ways in which the problem might be resolved.

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INDUSTRIAL ACTION LEADS TO EMBRYONIC INFORMATION SYSTEM

by
Kirk Warren, Senior Social Worker, Department of Community Welfare Services, Upper Murray Regional Centre, PO Box 365, Wodonga, Victoria 3690, Australia.

During 1981-1982 industrial action by field staff employed by the Department of Community Welfare Services led to the establishment of a Statewide 'Workloads Formula", designed to set limits on how much work each fieldworker was required to perform. The empetus for this action came from years of unlimited demands on fieldstaff with consequent "burn-out" and poor job satisfaction.

The Workloads Formula, as developed, created a framework in which the activities of fieldstaff, be they supervising Probationers, Wards of State, or working with community groups, etc., are allocated unit loadings. Each fieldworker can have a maximum of 100 units at any given time.

The relationship between activity and the number of units it is worth is complex and involves an assessment of how much "time" the activity requires, how much effort is required in terms of intervention, where the activity is placed in terms of Departmental priorities, and finally, how long the case has been on the "books". Intervention is maximized in the first three months of a case with unit reductions occurring in every block of three months after that.

Responsibility for managing the Formula and ensuring that fieldworkers' workloads are recorded and sent to Head Office on a monthly basis has generally been picked up by Senior Social Workers. What became apparent early in the implementation of the Formula is that as well as providing industrial protection the Formula is an "embryonic information system". For the first time the Department had a measure of what all fieldworkers were doing across all offices in the State. DCWS has 18 regions throughout the State of Victoria with some 250 fieldstaff.

The Upper Murray Region is a rural region with four fieldstaff. The remainder of this article will describe the implementation and management of the Workloads Formula as it applies to the Upper Murray Region (Wodonga office).

As already indicated, the reporting requirements are that regional aggregates (total figures for all fieldstaff across all activities) are sent to Head Office on a monthly basis. Compilation of these figures require a number of activities to be carried out. Firstly, physical lists have to be kept of each fieldworkers' activities. Secondly, the units allocated have to be correct and a way of comparing the units with the length of time the case has been on the "books" has also to be established. Thirdly, all activities across all fieldstaff have to be grouped and the numbers of cases and units aggregated. Finally, an administrative system had to be developed to produce the required activities/outputs.

Prior to my arrival as Senior Social Worker the region had purchased a 48K Apple II, twin disc drive unit, with printer. As well, there were a number of "off the shelf" software packages. Plans existed in the region for uses of the equipment. However, these were not very specific in nature and came under the general heading "Information Systems". As I had some prior experience with computers (TRS-80, owned for 9 months), a strong interest, in using them, an immediate problem (management of the Workloads Formula). I began the process of evaluating what the Apple and software offered and how it could meet my needs.

Software available was Personal File System (P.F.S.) including the Report Generator, DB Master, and Visicalc.

As I had preconceived notions about Visicalc being only suitable for accounting type procedures, I deferred using it and started assessing P.F.S. and DB Master. It quickly became apparent that P.F.S. was the simpler of the two programs to understand and implement. This was due to a number of factors. Firstly, I found its documentation was clearer, well set out, and with plenty of examples. DB

Master, however was confusing, cluttered and did not present its overall concept clearly. P.F.S. however, presents one simple concept; an electronic filing cabinet based on the filing cabinet sitting in my office. A big plus, as I could relate very quickly to the program explanations. The other plus of P.F.S. is that it is menu driven, with a limited number of options. My position now is for more options. However, as a beginner, a small number of options quickly brings about familiarity and an available system with output. The other plus with P.F.S. is that in the initial setting up stages you are presented with a blank screen upon which you can design your data input form. Just as I could design a pen and paper data sheet, so I was able to design one on the screen. Once saved, this input form is used on disc for all subsequent input of data.

Some quick experimentation with designing input forms clearly indicated that a great deal of information could be captured on any one Apple screen. I finally designed a form that met all my needs in relation to the Workloads Formula, and gave me other information as well. In all there are 18 fields covering such items as name, address, fieldworker, units program, date allocated, date order made, expiry date etc. On the Apple System, 900 (approximate) screens can be saved on any one floppy disc. The implications of this were quickly apparent. I could very easily have a system capable of recording details on 900 individual cases. In terms of the region this would represent clients over at least three years and more likely five years. The implications for building an historical data base were exciting.

Without going into any more detail along this line it is suffice to say that P.F.S.. represented a software package that was easy to grasp, easy to implement, flexible (to a point) and gave me what I wanted at that point in time. It is of interest to note that Australia-wide P.F.S. ranks number 1 and 2 in units sold and $ sales.

Apart from assessing software/hardware and moulding it to ones needs, the other consideration in implementing any computer system is the particular context one is operating in. This of course holds for any program implementation. The issues confronting me were (1) acceptance of my proposal, (2) how it impacted on existing administrative systems, (3) how to secure resources to maintain the system (i.e. keyboard operator). My experience to date is that universal principles hold as with implementing any proposal. However, with computerization still new and threatening more emphasis should be placed on high level support, and the development of a proposal that is simple to implement/maintain, and produces results that are beneficial as quickly as possible.

The system, as developed with P.F.S. has now "settled" and become part of the routine administration processes. A decision was made during the development stage that the basic information cycle would be on a fortnightly basis. I made this decision on the basis that a fortnight is the minimum period in which any real changes occur in terms of cases being opened/closed or a change in circumstances happens. Consequently all editing of the clients' data Base occurs within a two week cycle with reports being produced every second Monday. P.F.S. has the ability to produce reports based on any or all of the fields in the data input sheet. Currently every second Monday a report is printed on each fieldworker's caseload (Program, Client, Placement/Comments, Date Allocated, Order Date, Expiry Date, Units). Sub-counts are given for each program type in terms of cases and units. A total count for all cases and total units is given at the end. I receive a copy of each fieldworker's caseload, and they receive a copy of their own. As well, I receive printouts of contracted cases and cases awaiting allocation to a worker. Built around the actual computer/software is a paper based system of input sheets. These sheets are a paper copy of what appears on the computer screen (V.D.U.). As cases are opened/closed or changes occur in basic data they are entered on the sheet by myself or the field staff and placed in a tray in the computer room.

These alternations are then keyed in every Friday morning which updates the data base. Usual backup procedures are in operation with myself holding a master copy and a working copy and backup copy held in the computer room.

Initially the aggregate information generated by P.F.S. was manually transferred to typed aggregate sheets and sent to Head Office. Problems existed with this approach as a draft had to be completed just for checking and the actual job of typing the form (although a once off exercise) was complex. Arithmetic mistakes also crept into the system.

It was at this point I started to assess Visicalc. Having never used Visicalc I was immediately surprised at how it suited my needs perfectly. Not only could I create my form using it and have it printed out, but Visicalc would add up all my rows and columns of figures (without making mistakes). A bit of experimtentation soon indicated that I could build all sorts of mathematical formulae to manipulate the workload figures.

The current Visicalc model reproduces exactly what Head Office wants, but has been added to in a number of useful ways. We now have a number of indices that

1)give an indication of total units in the region (ie out put) with varying numbers of field staff. (Good for arguing for extra staff).

2)give an immediate comparison on a % basis, of where our effort is going between the four service systems (corrections, Family, Community, Management). (Good for planning and relating to Head Office priorities).

3)breakdowns between employed staff, voluntary workers and contracted cases.

Using Visicalc "window mode", "what if" type questions can be tested and the impact seen immediately on the indices, i.e., the impact of extra staff or an extra ten probation

cases, or if we put 50 units effort into a community development project.

There is still a manual transfer of the information from P.F.S. to the visicalc model (as it is not possible to transfer data automatically as it would be for instance from DB Master to Visicalc), however, the overall system saves time and it more accurate than a purely paper system.

In the space of six months the office has moved from "what's this technology all about?" to having a working computerized system, albeit relatively unsophisticated, and at this stage devoted to one specific task. What has been learned is that there is a definite process occuring which has moved from resistance/naivetey to interest/idea generation/planning for other uses. This process has been described in systems literature on computerization as Nolan's Stages in Information Systems Maturity. Nolan has hypothesized that each organization pases through six stages in its progression from initial involvement with computers to a mature information systems environment. The stages Nolan has identified are (1) initiation, (2) contagion, (3) control, (4) integration, (5) data administration, (6) maturity.

Looking back on the last six months, it is obvious there are a lot of pluses and minuses in how the process was handled. The methodology of computer implementation would of course argue for a systematic process of consultation with end users, with time and energy devoted to developing an integrated comprehensive system covering all facets of the organization, leading to the concept of information per se as an organizational resource like staff or fittings. The approach I took was the antithesis of this. Develop a use to satisfy my needs, largely in isolation of other users. The disadvantage I see in the "correct" approach is that there is a long lead time to produce a result and with naive users it would have been extremely difficult to maintain interest/involvement without a product. The advantage of the approach I took is that it

satisfied a need and has demonstrated a product fairly quickly. As already indicated there has also been a growth of interest/ideas and sophistication in understanding and use.

This growth in interest/understanding (what Nolan Calls CONTAGION has led to a consideration of how can we develop a system that will integrate the various information resources we do have. To date we have done some systems work that groups our information resources into three areas. These are Statutory Clients, Community Profile, and Financial Monitoring. The programs and areas this Department is involved in can be grouped into these three areas. Along with this grouping is a consideration of what are the discrete data areas that exist and what are required outputs in terms of reports.

Concomitant with this systems thinking, I am currently assessing D Base II. D Base II, which is CP/M based software is an extremely flexible program which allows a form of "programming" to produce information systems. Its strong potential, from my point of view, is that it allows the development of data bases which can be treated discretely, or (and this is the big plus) it allows joining of data bases, or the selective use of particular pieces of data from a number of data bases being used in the same report. This sort of flexibility is impossible with P.F.S. The assessment of D Base II is early days yet, but I am hopeful of extremely useful results.

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THE HUMAN SERVICES AND MUMPS

by
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No, MUMPS is not always a disease! MUMPS is also an acronum for the Massachusett's General Hospital Utility Multi-Programming System. MUMPS is an operating system-programming language originally developed by the laboratory of Computer Science, Massachusetts General Hospital to meet needs recognized as important in health information systems. In the twenty years or so of its history, MUMPS has progressively been recognized as a language of choice for health as well as other human service information systems.

There are a number of reasons why MUMPS has an established human service following, but there are three which are most important. First, MUMPS is text, not number-oriented. Human services deal with problem solving in terms of progress notes, reaction notes - in other words, primarily on the basis of textual language not numbers. MUMPS has admirable characteristics in handling text. Second, MUMPS allocates space only as needed. Human service client records increase in size unpredictably. Some client records are slight, others are of great length. MUMPS increases space as required, and, alternately, if items are deleted, makes space available immediately. Third, MUMPS can support rapid access to a data base. Human services usually need to be able to access active records rapidly. Requests for service may require rapid production of a selected history of the client's encounters with the organization, perhaps only concerning a single problem. Some MUMPS implementations, such as the COSTAR system described below, have capitalized on the advantages of MUMPS in this area to provide comprehensive and accurate views of the client to the service provider.

MUMPS was designed to support the development of an information system in an incremental, or step by step, and

evolutionary manner. MUMPS has the following characteristics:

1) allows easy and fast creation of modular applications;
2) allows changes in applications to be easily made without jeopardizing other applications in the system;
3) contains many data base management features;
4) handles text in powerful ways;
5) permits interactive, interpretive dialogue in a time sharing environment.
6) supports many people simultaneously accessing a data base;
7) supports communication across geographically separate sites.

MUMPS has and continues to maintain standard specifications by the American National Standards Institute. This guarantees portability across machines. MUMPS is supported by several computer manufacturers and is available for many different machines. Some major applications written in MUMPS are in the public domain, but many more should be available as the work in the Veteran's Administration (VA) proceeds. The article by Cooper and McGuire which follows describes the VA experience and plan. Hammond and Gottfredson's article discusses exciting developments in the VA's mental health applications.

Some of the disadvantages of MUMPS need to be noted. MUMPS was originally designed for minicomputers. Although Dick Walters and others have made the jump to microcomputers, the implementations did not really operate well until recently. Dr. Walters describes his experience in the MUMPS on Microcomputers article in this issue. Second, MUMPS programmers are not easily found. The VA's commitment to MUMPS should increase the stock of MUMPS programmers, but without a larger user's base for the language, it may not prosper. Third, MUMPS is often seen in the United States as a programming language for health. The wide variety of office automation applications, word processing, banking, and other commercial applications now available have not yet changed this impression.

COSTAR (Computer Stored Ambulatory Record) is one of the more well known information systems written in MUMPS. COSTAR was originally developed in a collaborative effort for a Boston Health Maintenance Organization, COSTAR meets client treatment, as well as the administrative, financial, and research needs of a variety of health organizations. COSTAR, depending upon whether or not it is a public domain version or "improved" version, consists of a set of modules from which the organization can pick and choose. For example, there is a security module to control access and preserve data base integrity. There is a registration module that collects client demographics. This module maintains relationships between client identity and client information contained in various modules. The client records module collects information on each client encounter. It can output 1)encounter reports - all information collected during an individual encounter;2)status reports - a current summary of the client's status - for example, problem lists, dates of narrative reports, etc; and 3)flow chart reports - chronological record of specified items, detailing client progress. Other modules include scheduling, accounts receivable, accounts payable, and general ledger as well as a report generator and, more recently, a query language.

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AUTOMATING THE VETERANS ADMINISTRATION'S HOSPITALS USING MUMPS

by

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Abstract

"A large organization is effective through its mass rather than through its agility. Fleas can jump many times their own height, but not elephants. Mass enables the organization to put to work a great many more kinds of knowledge and skill than could possibly be combined in anyone person or small group. But mass is also a limitation "Peter Drucker, in Age of Discontinuity"(p.192).

Introduction-The Veterans Administration (VA) has recently taken steps to become more effective through its mass, by using ANSMUMPS systems and principles of decentralization. It is creating a medical information system using an integrated patient data base built up from public domain modules. It is meeting its requirements by acquiring computers without locking itself into a single vendor, based on their performance in operating these ANS MUMPS based systems.

The Veterans Administration (VA) has recently taken steps to become more effective through its mass, by using ANS MUMPS systems and principles of decentralization. It is creating a medical information system using an integrated patient data base built up from public domain modules. It is meeting its requirements by acquiring computers without locking itself into a single vendor, based on their performance in operating these ANS MUMPS based systems.

The size of this effort is substantial, as the VA supports 169 medical facilities. The VA's mission of providing quality health care in the most efficient manner possible becomes more challenging as workloads increase and

constraints are imposed on fiscal and personnel resources. The effective use of computer technology to meet the challenges has become one of the VA's major priorities.

Until now, the VA has had great difficulty in implementing computer systems in hospitals, which resulted in a lack of adequate, modern computer technology for the VA's hospitals. Despite the complex organizational battles, both within and external to the VA, a small tight-knit group of creative individuals were developing software to handle critical clinical and administrative hospital functions. These individuals worked in a number of VA hospitals across the country and became known as the "Underground Railroad". Their computer systems were developed with strong considerations for portability and device independence.

Despite a lack of funding and encouragement, the applications were developed using a common data dictionary the group had devised. The "underground" functioned as a close network of bright and dedicated people who developed programming conventions and data element standards for the VA. Their creativity and persistence have made MUMPS the VA's predominant programming language and data management system for hospital applications.

The Scope and Method of the VA's Program-The VA's new direction for its hospitals is known as the Decentralized Hospital Computer Program (DHCP). The principles of decentralization recognize that an automation program for VA hospitals will never succeed if directed centrally with little or no input from the hospitals across the country. The hospitals' creative energies are necessary for application development for managing and operating the computer systems, and for overall program decision-making.

The attempt to automate all the VA's hospitals presents a large scale operational problem. Past attempts to centrally direct and manage automating this operation has repeatedly met with failure. Decentralization is an approach that provides a means of exploiting the economies

and organizational power of "bigness", while simultaneously allowing the productivity of "smallness".

One of the members of the "Underground Railroad", Tom Munnecke recently defined the advantages of decentralization for the VA:
- The speed with which decisions can be made
- The democracy of management and its informality
- The absence of a gap in the executive group between the "priveleged few" and "great many"
- The supply of good and experienced leaders
- The absence of "edict management" wherein nobody quite knows why he does what he is ordered to do.

The VA hopes to exploit the advantages of decentralization to identify dedicated, creative and highly motivated individuals who can contribute to making the VA modern in its use of computer technology and helping it become the creative laboratory it always had the potential to be.

The Tools for Decentralization-ANS MUMPS is well suited for our applications because of its easy and simple methods of program creation, modification and debugging. Our developers work closely with the clinician and in a relatively short period of time produce a product that can be useful for the hospital. They freely design both the content and structure of data to best fit the application, with strict adherence to the data dictionary.

The VA's File Manager was developed to meet the need for a database system and a set of application generators of utilities that a variety of users could use in an interactive mode. The File Manager is a powerful tool that provides users, even those who have little or no programming experience, an ability to define applications and message data to meet their own needs. It also serves as a model for dialogue control, database design and application coding. The design philosophy of this tool is now being expanded into a kernel that will be a combination of the File Manager, user logon/security, optical readers, electronic mail, computer assisted instruction, programmer support utilities, and word processing.

The VA is now using ANS MUMPS in the great majority of its development activities for the clinical and administrative functions of the hospitals. This has permitted us to be vendor independent. Any hardware manufacturers who support ANS MUMPS may provide equipment resources for the VA's Decentralized Hospitals Computer Program. Transporting applications programs from one computer manufacturer to another can be accomplished with minimal disruption to the operating environment and our applications code.

The foundation for our development approach has two components.

- A common database structure as represented by the data dictionary
- Conventions mutually agreed upon and adhered to involving:
  - Programming style and techniques
  - User/system interaction methods

The VA hospital applications which have been developed with ANS MUMPS are tightly integrated by modern principles of database design. Data descriptions are "roadmaps", providing the clinician, the clerk, the programmer and the computer with a common view of the information being manipulated. From the perspective of management, the database approach allows many different users and analysts at different sites to participate in the evaluation of new applications. Also, a psychologist exploring diagnostic categories and a pharmacist putting his formulary in order both use the same ANS MUMPS and File Manager programs to do their jobs, because both the diagnoses and the drugs are instances of data files.

Public Domain Software-Since the VA is a public agency, the software being developed is entirely in the public domain. We are rigorously adhering to the ANS MUMPS standard, and writing programs to be as easily portable and free from proprietary "hooks" as possible. We encourage the shared use of software, and would hope that any who wishes to join the VA's efforts in public domain software contact us. We feel that the broader the

standardization of data and programming methods, the easier it will be for future "small scale" clinical applications to be economically feasible. The Veterans Administration is strongly supportive of standardization, and perhaps can become a critical mass towards higher levels of data and program stardization.

Future Plans-As our hospital information systems and management information systems grow, we will be exploring ways to network various information systems within the hospital environment. Networking various data systems within the hospital for providing an information system to meet a hospital's total needs represents our ultimate goal. Through communications capabilities, management information can be reported in a "bottom-up" manner through the VA's health care system hierarchy. Management information reporting points begin at the service level in the hospitals and progress upward to the hospital directors, medical district and medical regional directors, and finally to central management levels.

In order to meet these totally integrated hospital data needs, we are looking into the use of local area networks. These networks would provide flexibility and interfaces to connect compatible hospital data systems, computers, word processors, and office automation equipment. Local area networks are still in their early stages of development use, but they hold considerable promise for future use in our hospitals. We intend to conduct tests and prototypes of local area networks in some of our hospitals in the immediate future to determine how we might best use this technology.

The Veterans Administration is pleased to become a more active partner in the MUMPS community. MUMPS has had a stunning success in solving problems we have been struggling with for many years.

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MASH in its Newest and Most Futuristic Form - The Computer Network reprinted from Network, the Newsletter of the New Jersey Self Help Clearinghouse, 4(1) Spring 84, St.. Clare Hospital CMHC, Denville NJ 07834.

Every Wednesday night a meeting takes place of people who have various disabling conditions. The discussion is similar to that of other self-help groups. But the leader for this discussion group is both deaf and blind, and what is even more amazing, those participating in these meetings don't leave their homes located all across the county. This is but one example of how people are sharing common concerns, practical information and even emotional support, by using their home computers to participate in local and national computer networks.

The "on-line conference" previously described, takes place weekly on one of the national computer networks, call Compuserve. Georgia Griffin, who facilitates that meeting, uses a braille printer to read what is transmitted. A variety of other devices have been developed to enable the disabled to use computers for telecommunications. For example, on one computer network for disabled persons in Maryland called HEX (Handicapped Educational Exchange), we have read messages from disabled persons who use speech synthesizers that directly reproduce their spoken word on to the computer in phonetically-spelled text. As home computers become more affordable, they will open up new possibilities for mutual-help, overcoming some of the traditional problems of transportation, rarity of condition, and the limitations of the disabilities themselves, which have prohibited the development of many self-help groups.

It is not just for the disabled that computer networks have shown MASH potential. On the same /compuserve system, there are separate SIG's, or Special Interest /groups, for family matters, women's issues, human sexuality, health, and more. There are separate SIG's for professionals, such

as those in medicine or education. The Clearinghouse has already answered dozens of requests on these SIG's referring people to national self-help groups and local self-help clearinghouses. People who use computers show no less a need for fact-to-face personal contacts. We have also used the computer system to network those who share rare illnesses and problems.

In addition to conferences (which Clearinghouse staff have been asked to host), the computer networks also provide other options: scanning, reading and posting messages; reading newsletter texts; sending/receiving electronic mail; reading/posting bulletins; or accessing dozens of different information databases (the clearinghouse has contributed to several that list helplines and self-help groups). For example, on any one of the SIG's one can post an inquiry message which will be read by hundreds of people. The next time one enters the same SIG, the computer will immediately advise the person of any responses.

In addition to the large national networks (which charge for use - a charge offset by their providing local telephone access lines), there are thousands of small free BBS (Bulletin Board System) databases that can be called 24 hours a day. They are run, very much like the SIG's. While most of their discussion is currently focused on computer issues, an increasing number deal with human problems and needs. The Clearinghouse hopes to develop the first BBS for MASH group information and networking within the next several months, utilizing primarily our national database.

While many might think of computer networks as impersonal and superficial, when seeing it in action, one can not help but develop a real appreciation for the potential that this "will-miracles-never-cease" technology will bring to networking and mutual aid. It is estimated that by the end of this decade, the majority of American families will have home computers. Some of the

New Jersey self-help groups, eg Camden Head Injury Support Group, are already using home computers to simplify mailings and newsletters to its members. But we foresee many of the national and regional self-help groups establishing their own BBS systems as computer networking becomes a more affordable and common form of personal and business communication. While not a panacea, computer telecommunications will in the years ahead revolutionize society, increasing the linkage of people, ideas and concerns, and providing innovative ways in which many people will find and develop the mutual aid self-help support they need.

INFORMATION SYSTEMS IN THE PERSONAL SOCIAL SERVICES IN ISRAEL

by

Menachem Monnickendam.Phd. and Yitzhak Berman

This paper was presented in an earlier version at the Computerization in Human Services Orientation Workshop, New York, October 1984 under the auspices of the office of Human Development Services, Department of Health and Human Services, Washington, D.C., and the Federation of Jewish Philanthropies of New York, New York and the Ministry of Labour and Social Affairs, Jerusalem, Israel.

In Israel, social policy originates mainly at the central governmental level. Certain policies take the form of laws being legislated by the knesset (the Israeli parliament). Other policies originate within the Ministry of Labour and Social Affairs. Additionally small but significant contributions to policy making arise from local authorities and voluntary organizations.

The responsibility for providing the services is shared by central and local governments and by public organizations. The central government is responsible for:

1. Policy, legislation and planning
2. Supervision and control
3. Participation in funding of services by 75%
4. Professional advice and guidance

The Local Authority is responsible for:
1. Operative planning of social activities and services
2. Service delivery
3. Partial funding of services (25%)

Most services are provided de facto by the local authorities. According to the S.W.S.A.(Social Work Service Act) of 1958, each municipality is delegated to establish

a local social service bureaux (S.S.B.) in order to provide social services to its inhabitants. There are more than 200 local social service bureaux in Israel. The Ministry of Labour and Social Affairs funds 75% of the budget of the local social services, including salaries for personnel.

The services provided by the local authority within the framework of the S.S.B., include: services to families in crisis; services for aged-including meals on wheels, home help, community service centres, social clubs and referrals to residential homes;child welfare services--including school social work services: placement in foster homes and child care institutions, referrals to day-care centres, daily foster care, etc.; services to the mentally retarded in the community and referrals to institutions when needed; social rehabilitation services; and community organization. The S.S.B.'s provide services to more than 200,000 persons which amount to about 5% of the Israeli population. Supervision of services is mandated to the central government. There are three regional offices in which about 150 supervisors are employed. The supervisors' task is to provide advice and counselling as well as control and inspection. They also have to make sure that the local authorities are operating according to the Ministry's policy.

The standard SSB contains three hierarchical levels:

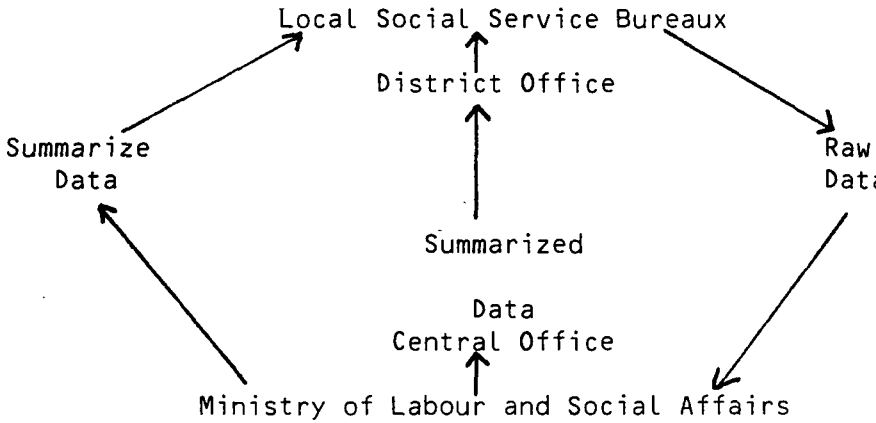
Director
Area team heads
Direct service workers

The direct services workers are those who do most of the data gathering which in part is used by them and in part transferred to higher echelons.

The local service is perceived as a separate organizational entity that is accountable both to the municipality (local authority) and to the ministry.

As Israel has a highly centralized administrative social service system, data gathered on the local level which is needed for budgetary, analysis, policy, planning or supervisory uses is currently transfered in its raw form from the local social service bureaux to the central office of the Ministry of Labour and Social Affairs where it is prepared for distribution to the various administrative, planning and service levels according to their needs.

Figure 1: Current Data Flow



At the present time the local social service bureaux have no ability (technically) to summarize their own data. All data systems are centrally controlled by the central office where it is summarized and distributed in a uniform manner to the various district and local social service bureaux. Data which then is distributed by the central office.

WORKING DATA SYSTEMS

The question of lack of readily available and reliable information which would be at the disposal of personnel (treatment, management, planning and policy-making) in local social service bureaux and the Ministry of Labour and Social Affairs for the purpose of making decisions and policy is a real issue. Moreover, in a time of budgetary

cutbacks, it becomes more important to clarify the output of services provided and the setting of priorities for target populations. Opinions have also been expressed that the process of supervision and follow-up of applicants in the social service network is not aware of all the services that a family receives from the point of view of budgetary expenditures and types of services.

At the present time there is no data system which includes the professional work of the social worker. The reporting of the treatment process remains in the file or at best in some primitive summarized form on the local level. There is a basic data system of the clientele receiving services but this system is based on the need of manual reporting according to external information needs. (N.A.S.U.A., 1982, p.68; Stretch, 1973,p.325).

There is a lack of readily available information in a meaningful format for the decision maker on a case service level, community service level, or case management, supervision and administration.

This state of affairs impairs the ability to plan, monitor, control and provide accountability on work tasks. With the development of the social services and the rise of demands on those services both public and professional it is imperative that the information system be up to date and useful. (Hosino, 1981, p.6; Sircar et al., pp. 54-55; Davis, 1974, p.6)

Currently there are three separate computerized information systems that are operated by the Ministry of Labour and Social Affairs. The first system is in the Social Affairs area of the ministry. It is a financial system which includes data concerning the payment of welfare grants, other financial assistance, medical insurance for those in need, financial assistance for the aged and placement in institutions and day care. This system was not originally designed to serve as an information system for planning or supervisory purposes and thus includes minimal data concerning payment

recipients. As a data system it is not a system which can be used for professional purposes. It does not report what a social worker does, it only names those who the social worker has a client.

The second data system is an information system which includes all clientele who enjoy any of the types of social services provided by the local social service bureaux. There are three classes of information included in this system.

1. Idenifiers on the head of the family.
2. Identifiers on other members of the family.
3. Data on the household.

This data system is meant to be updated by the local service office and potentially can be used as a planning and policy tool.

The data is gathered through the Basic Data Questionnaire (BDQ). It is the basic form for collecting data on a family who comes to a social service bureaux. The BDQ is functional on both the micro and macro level. This is a batch system that is updated once every 6 months.

Identification Number (I.D.)

The key to all information systems in Israel is the identification number. All residents in Israel have an I.D. number which is given at birth or upon receiving resident status. The I.D. number with other identifying data (name, address, date of birth, nationality, religion, country of origin and marital status) is officially recorded in the population register of the Ministry of the Interior. All of the above information is found on an identification card which all residents age 16 and over are required by law to carry at all times. There is a legal requirement to inform the Ministry of the Interior of a change of any information which is found on the identification card. The I.D. number of children are recorded on the identification cards of their parents.

Because of the universality of the I.D. number it is used by all agencies, organizations, financial institutions, etc. as a means of identifying a person. All forms require the recording of the I.D. number in addition to the individual's names as a means of identification. Within the social services the I.D. number is used and is the basis of all the data systems in use.

Basic Data Questionnaire

The Basic Data Questionnaire (BDQ) is the basic form for collecting data on a family who comes to a social service bureaux. It is the basis of the information system. The service one can receive could be in the form of receiving financial support (day care, institutional placement, medical insurance, etc.) or social service treatment or rehabilitation. The BDQ is functional on both the micro and macro level and can be used in four functional areas.

Figure 2: Functional Use of Basic Data Questionnaire by Level

Level	Micro	Macro	Macro	Macro	Micro
Functional use	Administr-ative	Statisti-cal	Statisti-cal	Planning	Administrative-Treatment
Stages	Basic Dat Questio aire	Statisti-cal output	Data Analysis	Problem Identif-ication	Individual Problem Identifi-cation by BDQ

1. Administrative -The social worker records identifying data by head of family, data of other members of the family and general household information. This identifying information is the basic data needed by a social worker to relate to the client and draw up a treatment plan. Within this framework the BDQ remains on a micro level.

2. Statistical -The total of all BDQ provides data of a statistical nature. How many clients, how many males, females, etc. It also provides the basis for data analysis, example: has there been an increase in a specific problem, who has the problem, where does the problem exist. Within this functional framework the BDQ data system is put on a macro-level.

3. Planning -On the basis of the statistical function of the BDQ data system data analysis takes on a planning function. On the basis of previous knowledge, analysis of trends, political and public pressure, planning questions can be asked which will focus the data analysis into providing operational questions regarding problem identification; and of the setting of priorities. The problem identified is still on a macro-level. Through data analysis, problems have been identified and given priorities, the number of clients with the problem has been ascertained including the characteristics of those who have the problem.

4. Administrative-Treatment -Once problem identification has been completed, in order for the BDQ data to take on an operational nature those clients who have been identified with the problem which has received priority are identified. It is at this level that the BDQ data system is broken down to the micro level and the social worker deals with the individual. By using the identifying information of the BDQ the social worker can relate to the client and draw up a treatment plan. The client receiving the treatment has been identified on the basis of data analysis and has a problem which within the planning process has received priority for treatment.

A third system is in the Employment Service which has an information system based on the personal data of job seekers and employment possibilities are reported in each labour exchange. This information system is only statistical in nature with data flowing from each labour exchange to an outside company who is contracted to gather

and present compiled data in a formal manner. This data is then presented to the senior administrative staff of the service and published in a monthly bulletin.

DATA FLOW

Only an end user, a worker who has ordered the information, can determine what is relevant for him to know and when it is relevant to receive the data. The information is processed according to the special requirements of the decision-maker. (Monnickendam, 1983,pp 22-25).

The question of who uses what data is an important one when one tries to use available data for planning purposes. Data published yearly might interest one type of end users, e.g., politicians, while weekly data will interest others, e.g., field administrators. Data by province will interest the general planner or policy maker while data by statistical area will interest the sub-local planner. Our analysis of data use by the different administrative and planning levels will be based on two modalities: time and type of data. The general rule that we will try to fulfill is: a) the closer one is to the administrative level of the service the shorter will be the time span for the data needed and the greater will be the detail of such data, and b) the further one is from the administrative process of the service given the longer will be the time span between the receipt of data and the more general will be the form of data presentation.

The following ideal type diagram may demonstrate the interrelationship between the type of data needed in the organizational hierarchy according to the time of reporting the data.

Figure 3: Type of data reported within organizational hierarchy by time of reporting

Type of Data / Time of Reporting	general	specific
yearly	policy	planning
quarterly	evaluation	administration
daily	x	service

It is important to note that data that is irrelevant at a lower level in the organizational hierarchy may be needed on the higher organization levels of policy and planning. Therefore, data is not only the result of a transfer process from service levels to planning and policy levels with a greater generalization of presentation and greater time span; at certain levels of the organization there may appear new data, which is relevant for those particular levels but not for those below in the organizational structure. An example is manpower data. In a service unit the personal delivering the service may not need such data but the head of a bureaux with a number of units needs to have manpower data. The need to know is important in data usage (Berman, 1982).

The need to know is not only relevant to the issue of confidentiality to which the phrase is popularly associated but is also relevant to efficient data usage, which is based on the premise that each level of an organizational structure uses data operationally in a different manner and therefore may need differential presentations of data in order to meet those operational needs.

FUTURE DIRECTONS

A search of published papers reveals that computers are used by the Human Services for a variety of reasons and accordingly influence the mechanics of the computer systems. This includes accountability, efficiency,

effectiveness, evaluation, service integration, standardization, interviewing, assessment, case management, support in decision-making and combined uses. (Monnickendam, 1983, pp. 7-17)

The operational goals of any future program and its relationship to computer ultilization should be as follows:

1. The creation of readily available and reliable information according to the need of end users.

2. Greater uniformity in wording procedures. (Efficiency, Standardization)

3. Making routine administrative work more efficient. (Efficiency)

4. Centralized follow-up of the movement of clients within the system. (Accountability, Assessment, Evaluation, Case Management).

5. Clarification of input supplied to the populations which receive services from the system. (Support in decision making, interviewing)

6. Clarification of service output. (Effectiveness)

7. Greater co-ordination between resources and needs. (Service integration)

8. Recording of the process of professional decision making. (Case management, accountability)

9. Improvement of communication of professional subjects by creating a professional, agreed and uniform language, (Efficiency, support in decision making)

The need of change in the structure of current social service information systems in order to provide better service delivery is at present a vocalized need. The

change we feel as proposed above will bring about a sensitivity to local information needs which will improve case management, planning an policy evaluation.

Israel has a number of conditions which we feel will enable a successful implementation and acceptance of computer development. There is a centrally controlled supervised social service system, in which services are provided by multidisciplinary area teams on the local level under one social service agency. Supervision according to area teams and consultation regarding specific target population and a case management approach to service delivery.

This situation is the outcome of a 7 year reorganization plan of all SSB's which resulted in the creation of a basic common set of administrative and professional norms. This structure was designed with future use of computerization as part of the administrative framework.

It is our hope that the proposed system will contribute to the improvement of accountability in social work as Reid so appropriately remarked: "The growing reliance on data...should have a salubrious effect on a profession that has for too long relied on its convictions for its credibility". (1974, p. 590)

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