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Community Care Plans and the Role of IT

Human Resource Management

CourseView Reviewed

Remembering HUSITA2

Care Planning for Frail Elderly People

Developing Software for Social Workers

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UP FRONT

This issue of *New Technology in the Human Services* follows on the heels of two events. One is HUSITA2, held in New Jersey in the summer. Some impressions of the event appear in later pages, but the impact will be felt more in Volume 6 as we begin to publish conference papers, especially European ones. The second event is the 10th birthday of Ferret Information Systems. Ten years is a long time in the history of computer programming, and a significant landmark for the personal social services. Welfare benefits programs are flag-bearers - exemplars of relevance, usefulness, reliability and efficiency for direct use by front line staff and their clients. Ferret's output ranks amongst the best, and to mark the occasion we offer both a reflective article about providing software for social workers from the company's founder, Philip Boyd, and (courtesy of Ferret) a full version of their PC suite of programs on disk.

Anniversaries are a time for looking back, an opportunity perhaps for reviewing the achievements of the human or personal social services in making good use of IT. The picture is mixed, with real successes and significant failures. On the successful side we can place client information systems. From those early systems which were so difficult to approach and so dependent of coding and decoding manuals, we have moved to large sophisticated packages with enormous potential in service management and delivery, such as Hampshire's SQL (Oracle) system, and a gratifyingly prompt reaction to the information needs of care in the community.

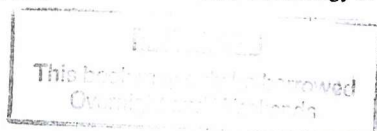
Credit goes as well to agencies which have tackled office automation and the networking potential of IT, but as we delve further some of

the weaknesses show up. There is huge variation between the best and worst agencies, with signs that some, usually the smaller ones, still invest in antiquated equipment. ICL's original computer concept of "one-per-desk" remains a distant prospect, and despite some important exceptions (like the welfare benefits programs) progress in IT applications of direct usefulness to front line staff has been painfully slow. More fundamentally there is little evidence of much greater pressure for progress from the staff themselves.

On the national scene the Department of Health has made significant movement with computerized performance indicators, and the Home Office with financial management systems for the Probation Service. At the same time an early central initiative, PROBIS, has come to the end of its days, loved only by a dwindling support group.

A couple of years ago an Editorial raised the problem of central leadership in the use of IT in our social services. The lack of leadership remains, and its cumulative impact is depressing. Five years ago Britain headed Europe in this area of IT development, and in some aspects could match the best in North America. Today Britain is well down the league table, lacking central policy or philosophy, and seemingly unwilling either to intervene or make significant investment. It is no accident that the next major European conferences will be in Holland (Maastricht, 1993) and Germany (Berlin, 1994). Those countries have a vision of the future for their human services, and a commitment to invest in it.

Bryan Glastonbury



Community Care Plans and the Role of IT in the Planning Process

Dr. Raymond Jack

The requirement on social services departments (SSDs) to produce community care plans (CCPs) by April 1st 1992 provides opportunities for departments not only to develop more coherent and collaborative strategies, but also to engage their workforce in the planning process. In so doing, however it also prompts questions about the management of information within departments.

The guidelines on planning provided by the Department of Health (DoH) in their *Caring for People Implementation Documents* (DoH, 1990), suggest that:

"The development of CCPs will be evolutionary... Planning needs to be a dynamic process tailored to changing circumstances" (p.2). CCPs should be "The start of the development of a planning process..." (p.3) which includes "...joint resource inventories and analyses of need" (p.4)..." reviewed annually..." (p.7) and which should be "backed up by hard data, presented in an accessible way..." (p.14).

A key element in promoting such a planning process is the availability of information at all levels of a department, but in a critique of previous planning approaches (also contained in the *Implementation Documents*) Gerald Wistow suggests that:

"The planning systems primarily served to provide detailed statistical information for the centre but had a limited impact on the development of strategic planning, management and review processes at local level..." (DoH, 1990, p.5).

Accessible information technology (IT) potentially provides a valuable vehicle for the promotion of dynamic and participative planning processes, helping to overcome the pitfalls Wistow describes by ensuring the two way flow of information. However IT has not always been welcomed unreservedly by workers in social services departments (LAMSAC 1984). Some regard it with suspicion as little more than a management surveillance tool ie. all the information going up and none coming down - a view supported by Wistow's assertion quoted earlier. Others may feel that any form of "technology" is antithetical to the person oriented business of social service provision and that learning to use complex IT systems takes time which hard pressed workers feel is more appropriately spent with clients. Very often therefore IT is seen as the preserve of managers or administrative staff and its potential for information dissemination goes unrealised (Glastonbury, 1990).

On the other hand staff at all levels in large departments sometimes feel divorced from decision making and powerless to influence departmental practice because they are not privy to the information upon which decisions are based. The resultant lack of "planning literacy" (ie. knowledge of planning exigencies, concepts and process) can lead to poor understanding of and commitment to departmental strategies. Low morale and destructive, energy wasting "management bashing" can ensue - especially in times of organisational change such as that which all departments are currently experiencing.

Mismanagement of information has not only contributed to criticism of managers from within their departments. Various reports from the Social Services Inspectorate and Audit Commission have criticised the management of resources by SSDs, and Sir Roy Griffiths specified the inadequacy of management

information systems as a factor in this (Griffiths, 1988). A recent study which attempted to elicit information on residential resources from a large number of SSDs (Shiell et. al., 1990, pp. 24-25) confirmed these doubts in its findings that basic statistics on occupancy and turnover were not calculated, or managers were unaware that such statistics were calculated elsewhere in their departments; that where IT systems did exist special programs were needed to extract the data from the computer and that therefore access was as much the problem as information. The researchers concluded that such inadequate information systems will severely impede authorities in their attempts to carry out their duties under the Community Care Act such as the identification of need, community care planning and contracting with provider agencies.

Thus, although inaccessible and overly complicated IT systems - when combined with the scepticism of many workers - can become part of the problem of low morale and disaffection, IT is undoubtedly an essential part of the solution to ineffective planning and resource management. Whether IT has in the past been seen as problem or solution, management now need to be engaging their staff in the type of participative planning process envisaged by the DoH and working to overcome the resistance to the right type of IT which can promote this process.

What follows is a brief account of a community care planning project undertaken by Essex Social Services Department (the SSD) in collaboration with the University of East Anglia (UEA). The project illustrates the role of IT not only in the preparation of community care plans, but also its potential for promoting a planning literate workforce which can participate more fully in the planning process.

The SSD, wanting to develop its community care plan for elderly people, commissioned from UEA a survey of resources for people over 65 provided by social services, health, housing and the independent sector in the County of Essex. A dual methodology of interviews and

questionnaires to teams and individuals in each sector was employed to identify the extent and nature of present provision and any plans for its development. This enabled district rates of resource provision to be compared with one another and with national rates of service use derived from the OPCS Surveys of Disability in Great Britain (OPCS, 1988, 1989) and the General Household Survey (OPCS, 1984). Estimates of likely future use were derived by applying the local and national rates of use to population forecasts for each district and the County for 1995 and 2001.

The difficulties some managers and practitioners had in obtaining data for the survey confirmed the findings of the research reported earlier - despite the existence of several information systems within the SSD and the wide availability of computers throughout the districts.

A central aspect of the brief was that the methodology used should be readily replicable with the same or other client groups to facilitate updating and review. Initially it was intended to use a computer database solely to store and analyze the demographic and survey derived data and to produce a written report on the basis of this. However it was rapidly realised that the problems of access and availability of information identified in the first stage of the work would not be affected by such a limited approach and that an opportunity to promote the participative planning process begun by the interview and questionnaire survey would be lost. A written report - though having some advantages - would rapidly be obsolete and in addition would simply represent the researchers interpretation of the data rather than enabling workers to interrogate the data and make their own.

An information system was therefore developed based on the quantitative and qualitative findings of the survey. It is entirely menu driven and a very brief, step by step manual ensures that no previous computer training or experience is required to access the system. Information is presented in a form which relates to the way the

SSD is organised managerially and geographically, and offers the kind of data which the survey identified as useful to workers at various levels of the organisation - both numeric data, such as the number of people over 65 living alone in a district or the number of home help posts there, and qualitative data, such as whether or not home care is integrated into social work teams in a district. In order to promote the awareness and involvement of workers with IT and its potential applications the system is designed to enable not only consultation but interrogation of the data. Thus it both prompts people to ask questions and helps them to find answers.

Accessibility of information is not solely a matter of easy operation of the system. Individuals may feel they are denied access to information because they do not know the type of questions to ask, which might be the case particularly in relation to the concepts and process of planning. In order to promote more widespread familiarity and use of IT within the department and to encourage a genuinely participative planning process, the system is designed to provide guidance for the user with no experience of planning on the type of questions which are central to the planning process.

It was at this point that a trade off had to be achieved between the capability of the system to answer an infinite variety of questions - flexibility - and the primary requirement that it remain simple to operate - accessibility. The more varied the type of questions the more complex the operation of the system might become and the less the system would contribute to the participative planning process which it was meant to promote. If the number of types of question had to be limited, what should they be bearing in mind in the context of the function of the system as a planning tool for social services?

Six basic types of questions related to the planning and evaluation of service delivery were identified by adapting a framework for analysing social services data proposed by Peter Gorbach

and Ian Sinclair (Gorbach and Sinclair, 1989).

1. **Equity questions** - are resources distributed equitably between districts bearing in mind potential demand, eg. how many home helps does each district have per 1000 population over 65.

Apparent inequity can often be accounted for by further analysis of the data available and the second type of question might contribute to this analysis.
2. **Targeting questions** - is the service distributed according to where needs are greatest? Thus, although district (a) might appear to have twice the rate of home help posts per 1000 population over 65 as district (b), this could be partially justified if district (a) had twice the number of severely disabled people over 65 living alone in its area.
3. **Coverage questions** - how many clients are being served per 1000 population? An example here might be district (a) having 200 home help clients per 1000 population over 65, whereas district (b) has only 150 clients per 1000 65+, apparently reaching fewer of those *at risk*. Again, however, this apparent imbalance may be justified if the policy of district (b) is to provide a more intensive service (ie. more hours) to fewer clients. The next type of question would help to explore this possibility.
4. **Density questions** - eg. how many hours of home help service on average does each client receive? District (b) might, therefore, be sacrificing coverage for density.
5. **Utilisation questions** - on average how many clients use a service in a given period? District (a) might have on average twice the number of clients using each respite care bed as in district (b) in a year.
6. **Compensation questions** - what is the balance of services within an area?
 - a) **Between service compensation:** if a district has a low rate of home helps and meals on wheels per 1000 65+ (ie. community services) does it have

a high rate of residential beds which might be seen as compensating for this.

- b) Between agency compensation: if a district has a high rate of independent residential beds per 1000 65+ does it have a low rate of SSD beds.

Limited space precludes a full description of the information system's operation but an example relating to equity and the home help service illustrates its simplicity. The user wishes to know how districts compare on the number of home helps they have per 1000 population aged 65+. The user first looks up the home help data which shows in one row the figure for each of the districts, and - by pressing only one key - moves the data shown into a preconstructed table with no data in it called "Equity". This is repeated with the population data. The table then automatically calculates the number of home helps per 1000 population 65+.

Sample display:

Equity				
District	1	2	3	4
Popn. 65+	10,000	20,000	6,000	15,000
No. of Home Helps	50	80	40	70
Home helps per 1000 popn. 65+	5	4	6.7	4.7

It is intended that this system will help the SSD to overcome information shortfalls identified as commonplace by this and earlier research and to meet the new challenges of the Community Care Act. In addition it allows an approach to service analysis and planning which Gorbach and Sinclair described as one of comparison, exploration and discussion. This approach shares much with the "evolutionary ... dynamic process tailored to meet changing circumstances" envisaged by the DoH. It is hoped that the accessibility of both the system and the planning

concepts on which it is based will promote the participation of workers in the planning process. Regardless of their previous "literacy" in relation to IT or planning and with no costly additional training in either, it might enhance their understanding and acceptance of both.

Technical note: The system is based upon a commercially available database shell and runs on a micro computer. The database is designed to be readily adapted for use in other agencies and is being developed with this in mind. An evaluation study is being carried out among users of the information system and readers who wish to know more about this or the system itself should contact any member of the development team who are Eugene Huntley, Mark Huntley and Raymond Jack.

References:

Department of Health. *Caring for People Implementation Documents, Draft Guidance: Planning*. HMSO. 1990.

Glastonbury B. Information, IT and Caring for People. *New Technology in the Human Services*, 5.1, Summer 1990.

Gorbach P. and Sinclair I. Monitoring the home help service: clues to improving performance from analysing data in a computerised client information system. *Research, Policy and Planning* 1989, 7, 1, pp 24-30.

Griffiths Sir R. *Community Care - Agenda for Action*. HMSO 1988.

LAMSAC. *Computerisation in social services/ social work departments. A national survey*. Surrey University/ LAMSAC 1984.

OPCS (Office of Population Censuses and Surveys). *Surveys of Disability in Great Britain*. Reports 1 and 4, HMSO 1988, 1989.

OPCS. *General Household Survey*. HMSO 1984.

Shiell A. et.al. Watching the Pounds. *Community Care* 1.8.1990 pp 24-25.

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Human Resource Management - Applying the Methodologies of Information Systems to the Department of Mental Health - a case study of the Connecticut Department of Mental Health

Dr. Richard Cardinali and Christine Farrelly

Abstract

Maintaining information has been one of the primary occupations of humans for centuries. Modern day people have many devices available to them to aid in this pursuit.

The Connecticut Department of Mental Health Human Resource Management System is an attempt to better manage, maintain, and process employee information throughout the agency. This case study encompasses the following areas:

- * The history of Human Resource and Management Information Systems as well as a description of pre-automation operations.
- * The Department's current system.
- * Recommendation for improvements to the current system; and
- * Future trends in the Human Resource Information Management arena.

History of Human Resource Information Systems

The goal of any Human Resource Information System is to collect and manipulate data. Collecting data is an ancient occupation. The Roman Emperor Caesar Augustus decreed a census be taken to collect information about people's occupations, mobility, age, etc. The objective of the census was to use the data gathered to provide the government with information from which future tax revenue could be estimated. All this information was manually recorded by scribes over a period of months. As the fields of Management and Human Resource Information Systems evolved, the main goal has been essentially unchanged, however; the methods of arriving at that goal have changed considerably.

As the need grew for a way to handle information more effectively and efficiently, the need for better methods to accomplish the task also grew. The first real computation aid, the

abacus, was developed in China early in 1200 BC. Blaise Pascal developed an adding machine (Machine Arithmetique) in 1647. In the early 1800's, Charles Babbage designed a machine to compute and print mathematical tables and an analytical engine which could solve more general problems. Babbage also designed a machine that was quite comparable to the modern day computer. From these early beginnings, modern day calculators, punched card data processing, electronic computers, and microcomputers evolved (Davis, Ch.4). For the most part, the use of these early devices involved mathematics, record keeping, or accounting.

Before computerization, human resource data was stored in files and any reporting or maintaining had to be done manually. Early use of the computer was concentrated in the accounting, sales, and inventory areas of business. Personnel's only significant use of computers was for the calculation of payroll. Late in the 1960's and early in the 1970's, personnel's use of computers was stimulated by

increased government regulations concerning employment, wage administration, employee benefits, etc. Personnel and Human Resource Departments needed to have this information readily accessible and easily retrievable.

Overview of the Department of Mental Health

The State of Connecticut Department of Mental Health's (DMH) mission, as mandated by the Governor, is to treat adult mentally ill citizens with a primary target group designated as persons with severe and prolonged mental illness who are poor and those at risk of psychiatric hospitalization who are poor (Connecticut Department of Mental Health Annual Report 1988-1989).

In order to be able to accomplish this mission, the Department employs more than 4,000 employees, making it one of the largest agencies in state government. The Department operates nine facilities located throughout the State of Connecticut. In each of these facilities, a personnel office staffed by a Facility Personnel Director, two Personnel Officers at the three larger facilities or one Personnel Officer at the smaller facilities, and a staff of several clerical and payroll personnel are charged with the handling and co-ordination of the personnel function. The Facility Personnel Director is responsible for all personnel transaction at his/her facility and reports directly to the Facility Superintendent.

An Agency Personnel Director indirectly supervises the functioning of all facility personnel offices and is located at the Department's Office of the Commissioner. This individual reports directly to the Deputy Commissioner for Administrative Services and, in addition to the above, is responsible for setting personnel policy and procedures for the Department, ensuring compliance with all state personnel regulations, and directing the personnel function for the employees of the Office of the Commissioner.

The DMH Human Resource Information System: Prior to Automation

In the Department of Mental Health, the tracking of employee information was largely completed by hand via the use of logs, card files, etc. Because of the large number of individuals employed by the Department, multiplied by the amount of information required to keep accurate and adequate personnel records on each and every one, the personnel offices had an "information explosion" and limited resources to cope with all the required information.

In the mid 1970's, the Bureau of Information Systems and Data Processing, a division of the Department of Administrative Services (another state agency), provided all state agencies with a data base of limited employee information for the generation of personnel action forms. However, all departments had to manually complete transaction sheets to be entered into the system. The agencies served by this system did not have direct computer linkup or access to the information for reporting purposes other than the reports generated by Administrative Services. All personnel staffing, affirmative action, training, and activity reports had to be developed manually utilizing information kept in file cabinets, index cards, and logs. Many of these reports were needed on a monthly basis and involved large amounts of person hours.

The DMH Human Resource Information Systems: After Automation

Because of the huge amount of information gathered and maintained by all the Department of Mental Health personnel offices, as well as the ever growing request for new and/or more detailed reports, an automation plan was developed. The Department took its initial step into computerization in early 1985. The decision was made by the Agency Personnel Administrator and the Director of the Information System Division to develop a plan to computerize the Department's personnel record keeping, recording, forms generation and pilot the Department's Human Resources Management

System developed from this plan in the Office of the Commissioner. Both managers submitted a joint action plan for this process as part of their management incentive plan objectives. Within the next year and a half, the Agency Personnel Administrator had retired and the Director of Information Systems Division had left state employment leaving few records of what had transpired in the development of their proposed human resource information system.

With the advent of new individuals in these two key positions, the gauntlet of developing a computerized human resource management system was resumed. In early 1987, a task force was assembled consisting of the two directors, the Department's only computer programmer, and several members of the facility personnel offices. The task force was charged with the responsibility of designing and implementing a workable department-wide human resource information system by autumn 1989. Primary considerations for the new system included:

- * Information handling needs of the personnel offices;
- * Adaptability of system to the department and employees to the system; and
- * Fiscal constraints.

During the project planning stage, the representatives from the task force began formally meeting with facility personnel officers at the normally scheduled monthly personnel meeting to determine the types of information handled in facility personnel offices and the types of reports and forms generated. Concurrently, a survey was conducted throughout the Department to determine the number and location of computers, the software in use, and the primary users and their level of expertise.

As often happens in state government, the consideration of fiscal constraints became paramount. Utilizing the information gathered

from the survey, it was determined that all personnel offices had one or more personal computers on-site and most had dBase III data base software. The decision was made to utilize the hardware and software currently available and develop a human resource information management system by programming the necessary functions and reports within dBase III Plus. Each facility was to have a stand alone system to eliminate the expense of a wide area network.

The computer programmer assigned to develop the system was not familiar with personnel practices and procedures and had little experience with dBase III Plus software. Consequently from the information gathered at the monthly personnel meetings and the informal assistance of staff of the Middletown, Connecticut facility's personnel office, the Department's Human Resource Management System was designed.

The system was implemented in all nine facilities during 1988-1989. The first and most tedious step in the implementation stage was input of the personnel data for all department employees. The first facility to use the system was the Office of the Commissioner. As the other facilities began to input and retrieve information, it was discovered that the system was cumbersome, did not provide the types of reports necessary, and, in short, did not meet the needs of the personnel offices. More meetings were held with all users and the system was updated which resulted in a number of program revisions.

The revised system in use today utilizes dBase's relational data base concept. The total number of individual pieces of personnel information needed 381 fields. These fields were divided into fifteen separate data based grouped by topic. These data bases ranged in size from eight to fifty fields with an average field size of twenty-six. To allow for relationships to be set between two or more files, key fields were built into each file. This system is primarily used as a record keeping device. Depending upon the user

knowledge of dBase, the system can be queried for specific information via the search conditions in the dBase command structure. The original intent was to have reports on selected topics designed into the system for department use. However, due to short staffing in the Information Systems Division and the transfer of the original programmer to another agency, the number of reports generated fell short of the original goal.

User support and training was also a problem. The Department's centralized training unit provided courses in the use of dBase III Plus software to all employees who requested it. Some training on the use of the Human Resource Management System was done on-site by computer programmers from the Information System Division upon installation of the system at the facility personnel offices. The training unit began dBase training in March 1987 and also provided consultation on developing *ad hoc* reports for all staff as requested.

Lessons Learned and Recommendations for Future Systems

There are two viable alternatives as to what can be done to make the Department's Human Resource Management System workable:

- * Scrap the entire system and start over again; or
- * Revise the system and salvage what works, delete what does not, and add in what is needed.

The general consensus of the personnel staff who use the current system is that it has been cumbersome and inefficient from the outset and further revisions will yield questionable results. It is also realized that whichever course of action is taken, the plan must be developed and adhered to in order to avoid the problem areas that materialized in the planning, implementation, and use of the current system.

One prerequisite for structuring the redesigning

the Human Resource Management System is to gain an understanding of the input processes and the outputs desired. It appears that this key step was not given thorough attention with the planning of the present system.

Once the prerequisite is met, the next step in the action plan would be to implement a systems development process (Brandon, 1974, pp.33-34). Some of the steps included in this process would include:

- * A system survey or feasibility study. This is essentially of user requirements and the determination that the new or updated system is technically practical and fiscally viable.
- * Systems implementation. There are three separate stages in this process:
 - System design and analysis
 - Programming
 - System integration
- * System Support. The system must be maintained. It is very rare to find a system that does not change during the course of its existence. Factors such as changes in legislation and regulations and management's utilization of the system will result in the necessity to change the system.

Additionally, time should also be spent on the factors that will ultimately contribute to the success or failure to the system. The Department must determine the prioritize the major critical success factors for the Human Resource Management System and then choose which ones will take precedence.

The major critical success factor for the Department's Human Resource Management System is to develop and implement a cost effective system which is easy to use and provides the necessary reports in a timely

manner. This one factor, if taken at face value, seems straight forward enough. But dealing with the constraints of State Government, having a system that is both easy to use the fiscally viable may be a contradiction of terms. Often the best equipment, services, etc., cannot be procured due to the state's use of the bid system in which the lowest bidder receives the contract for services.

Once the system is implemented and in use, an action plan for user support and system maintenance should be developed and implemented. This plan should include:

- * Policies and procedures to ensure that all personnel offices have standardized hardware, software, and operating systems; and
- * Support mechanisms such as training and consulting, purchasing and maintenance, and staffing considerations.

Critical to the success of the new system is a procedure that would enable facilities to share information and reports. The current system utilizes stand alone terminals with no master database. The Department should set up a process that would allow user to share appropriate information and reports, which are accomplished on an informal basis. There should also be concern to standardize reports and utilize a wide area network as opposed to stand alone terminals to allow sharing of data.

The critical piece that is almost completely ignored in many current systems are support mechanisms with the end user. Key in lending support to those who must use the system is training. In this case training was provided, but it appeared either too general or too short. As part of the implementation and maintenance of the system, the Department should provide off-site, system specific training for all individuals who will be using the system. After this component, work site training should be provided on an as needed basis.

Other components of the support mechanism that could prove beneficial to the end user and management are information exchange networks, inter-and intra-facility user groups that can foster the sharing of information and experiences and help users and each other (Kleinberg, 1988). Through training and consulting, the Department can eliminate the prevailing feeling of the current users that they are "on their own."

Through a more structured planning of identifying the critical success factors, creating an action plan, developing policies and procedures, and providing support mechanisms to the end users, it may be possible that the Department of Mental Health can retrieve the good parts of its current Human Resource Management System and use these areas as a springboard to develop a better one.

Future Trends

Because of the low cost of microcomputer technology, the number of organizations utilizing Human Resource Information Systems will expand greatly in the coming years. In addition, because of the potential for diversity, the number of applications for these systems will also expand. As the technology continues to develop, it will be extremely important for the Human Resource Information System user to remain abreast of changes and their potential for impacting upon their organizational structure and functioning (Pasqualetto, 1988).

Conclusion

No matter how well thought out or expensive a human resource information system is, it will only be as good as it is to the end users. The end users are the ones who must "live" with the systems purchased and created by the system experts. The most sophisticated of human resource information system will lie unutilized and unappreciated by those whose work lives it is supposed to enhance if the needs and concerns of the end users are ignored. The people who use the system should be in on all stages of the development of the system and the provision of

ongoing support after the implementation must be considered a necessity, not a luxury, if the system is going to be "user friendly." The case amply demonstrates that in planning an information system, regardless of its use, a number of carefully planned events must take place. The Connecticut Department of Mental Health has learned this and has benefitted by developing a system that is now responsive to both the administration and its end users.

References and Further Reading

Brandon, Dick H. *Data Processing Organizations and Manpower Planning*. Mason and Lipscomb Publishers, Inc.: New York, NY, 1974.

Cascio, Wayne F. and Awad, Elias M. *Human Resource Management: An Information System Approach*. Reston Publishing Company, Inc.: Reston, VA, 1981.

Davis, William S. *Computers and Business Information Processing*. Addison-Wesley Publishing Company: Reading, MA, 1983.

Kleinberg, Eugene R. "Strategies for Effective Microcomputer Management", *Readings in Information Systems - A Managerial Perspective*. West Publishing Company: St. Paul, MN, 1988.

Nalan, R. "Managing the Crises in Data Processing", *Harvard Business Review*, V.57, March/April 1979.

Pasqualetto, Joseph. "Personnel Computing - Evaluating the Future of HRIS", *Personnel Journal*. August, 1988.

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HUSITA 2

The first HUSITA (HUMAN Services Information Technology Applications) International Conference took place in Birmingham in 1987. After realising the vast amount of work needed to host such an event the small HUSITA Committee formed at the end of HUSITA 1 wondered who could be persuaded to take on the task of the second International Conference, preferably on the other side of the Atlantic. Marcos Leidermann, backed by his School of Social Work at Rutgers University in New Brunswick, New Jersey, took up the challenge, and four years later many old and new faces gathered at the Hyatt Regency in New Brunswick. Three of the British participants offer their impressions of the event.

From Michael Ferriter, Senior Social Worker, Rampton Hospital.

Many of you will have been aware that the Husita 2 Conference took place in New Brunswick, New Jersey, at the end of June this year. I was fortunate enough to have a paper accepted for the Conference, based on my research on computer aided interviewing. I was also very fortunate to gain a Special Hospitals Service Authority bursary to cover the cost of my attendance at the Conference. The following are my impressions of Husita 2 and of some of the major themes and issues which emerged.

First, a few general observations about the Conference. Although it was organised by Rutgers University, the venue was the Hyatt Regency Hotel, not far from the University campus. Many of us felt that the surroundings

were more luxurious than social workers were used to, though the luxuries of the Hotel did not include such basics as a PC in every conference room and I, for one, would have gladly swapped a jacuzzi for a computer projector!

A rogue air conditioning system also produced near-arctic conditions in one particular conference room. However, it was typical of the good spirit of the Conference that we simply adjourned to the nearby coffee lounge and carried on.

As many of us had experienced in Husita 1 in 1987, there were almost too many papers given, a veritable embarrassment of riches and it was simply not possible to attend all the papers that one would have liked to.

However, despite any minor problems, I felt that Husita 2

was indeed a success, with a gratifyingly high standard of debate. The following are some of the main themes and issues at the Conference. I have not referred to specific papers in detail since full Conference papers will be published at a later date in book form.

One of the major problems of implementing systems in a human service is getting the workers/practitioners to accept the systems and to use them. It became clear during the Conference that training plays a central role and an oft-quoted ratio of costs of systems development was: 10% of costs on hardware, 40% on software and 50% on training! The trainers need to acknowledge, from the first day of the training session, any anxieties and fears that workers may feel about the new system. This **must** be brought out in the open, on day one, and where possible, senior management should publicly and unambiguously offer reassurances, where reassurance is possible, about the workers' fears and anxieties.

A related issue is the question of what constitutes good systems design and who designs the good system? This problem can be examined on two levels, contrasting the "top down" versus "bottom up" approaches: is the drive for the system from management or the practitioner? On the second, more technical level, have we now reached the point, with the advent of 4th Generation Languages, where practitioners can design systems as good, if not better, than by the traditional systems analysis approach?

Practitioners were far outnumbered by academics at the Conference. This may well reflect differences in funding between the academic world and the world of practice but I would hope that in future Conferences this balance will be redressed.

If the Conference was indeed dominated by academia, it could also be said to have been dominated by First World nations. The need to build bridges between the First and the Third World was felt to be a priority, as was the need to build bridges between West and East Europe. Berlin was chosen as the venue for a European Conference in 1994 with this in mind.

The need for continued contact between Conferences was stressed. "Networking" was the buzz-word, expressing both the need to maintain contact and the technical means by which the contact could be achieved.

The continued lively debate on artificial intelligence in the human services carried on many of the topics discussed in Husita I. Papers addressed such topics as the nature of artificial intelligence, the suitability of the human services as a domain for artificial intelligence applications and the ethical and legal problems of using such systems.

Highlights of the Conference included a lecture by

Professor Casimir Kulikowski, Professor of Computer Science at Rutgers University and Director of the Rutgers Research Resource on Artificial Intelligence in Medicine, on the subject of "Artificial Intelligence, Human Judgement and Human Services" and a talk given by Dr Arno A Penzias, winner of the Nobel Prize in Physics in 1978, who was a keynote speaker.

On a more personal note, apart from the work of the Conference itself, many of us will keep happy memories of the free performance of Don Giovanni given by the Metropolitan Opera of New York in the park in New Brunswick.

From Margaret Manning, Coventry Polytechnic.

New Brunswick, New Jersey in the United States set the scene for the second HUSITA conference. With over 100 speakers from many countries the stage was set for exchanging ideas, making new social and academic contacts and renewing past acquaintances. The Hyatt Hotel as the centre piece for both conference sessions and accommodation proved an ideal forum for continuing academic debates on an informal basis. The following is a brief commentary on the proceedings of the conference for those unable to attend.

In spite of the busy scheduling of papers and workshop presentations time was made for scholars of international repute to be honoured. Special mention was made of the invaluable contribution to the advance of Information Technology in Human Services made by James Hedlund, John Kallas, Harold Lewis and Monica Shapira, each well known in their own right. A tribute and posthumous award was given to Thomas Hezekiah Mott, Jr., well known and highly respected, for his sterling work in the promotion of information technology within education and business management. Scientific presentations embraced a diverse and wide ranging series of topics, for example client advocacy, support systems for front line workers, the management of change and equal opportunities. Underpinning all was the aim of applying theory to direct practice. The sessions were characterised by lively debate by participants who obviously found the presentations both interesting and relevant to their particular areas of expertise.

Formal presentations were complemented by the provision of an Exhibition Hall where willing demonstrators showed delegates the latest available software for data bases, knowledge bases, and expert systems, together with programs specially written for the maintenance of official records and the charting of clients progress. In conclusion, opportunities to listen to and comment on many challenging issues in the Human Services were readily available. The quality of presentations sustained the interest of participants and promoted a wealth of

enthusiastic debate. Special thanks must go to all those concerned in the organisation of the conference, and the Hyatt Hotel for their hospitality.

From Bryan Glastonbury, Editor

I had not been part of the organisation of HUSITA 1, but was close enough to Stuart and Hazel Toole and their crowd of helpers, and to Walter LaMendola at the American end, to know how difficult it is to avoid anything other than total chaos at such a gathering. I had a lot of background knowledge of the sort of organisational and financial problems which might emerge, and hence a healthy respect for the courage of Marcos Leidermann or indeed anyone else willing to take on such a task.

Following HUSITA 1 I'd been much involved in handling the publication of the huge volume of high quality papers which were presented. Hence I went to New Brunswick with a lot of anticipation, but also with an inclination to make comparisons. Would the Americans do as well as the Brits in setting up the conference? Would the quality of papers be as good as last time, and show a real advance in our development of the subject?

At the same time I already knew that, thanks to the enthusiasm and sponsorship of the Province of Limburg in Holland, HUSITA 3 was to take place in Maastricht in 1993, and that I was likely to be centrally involved in running it. New Brunswick became a test bed, a place for identifying the "does" and "don'ts" for Maastricht, and getting ideas for future developments. Overall I was as much bound up in the politics and administration of HUSITA 2 as in the facilities and presentations.

Comparisons with Birmingham first. What had I valued at the 1987 gathering? Above all the chance to meet and talk with people. New Brunswick was good for that too. The main reception area and bar of the Hyatt Regency became a focus for small informal groups well into the night. For food, however, Birmingham won easily. In 1987 Stuart Toole made the brave (and foolhardy?) decision to offer non-stop food and hot drinks, including a vegetarian stall, as part of the basic conference fee. We could eat when we liked and as much as we liked. In 1991 food came extra. The Hyatt Regency had plenty of places for eating, but not cheap. To get better value, including a superb Louisiana restaurant, we had to leave the hotel's air conditioning and brave the heat. What hardship!

Birmingham had one facility which many of us missed in New Brunswick - a room of computers which anyone could use. Instead there were many displays, often associated with a linked nursing conference, and some useful stalls, like Dick Schoech's CUSSNet, but not machines where those of us who had brought programs or

blank disks in search of programs could sit and play.

Both conferences had complex timetables, with many sessions running concurrently, so difficult decisions had to be taken about what to attend. It felt as though we had to work harder in New Brunswick, because the timetable included both breakfast and lunch meetings. At the same time there was more scope for us in 1991 because we lived and worked in the same building. New Brunswick evenings were vital for meeting up with people, whereas in Birmingham we scattered to a variety of hostels and hotels in the early evening.

The content of the 1991 conference was both a stimulus and a disappointment. It was disappointing because in several vital areas of computer applications (direct client software, for example) we appeared not to have made much real movement over recent years, and amongst the older hands there was a touch of pessimism about the slow rate of progress. Nevertheless, it was exciting to note the vitality of areas where change had occurred, noticeably outside the technical programming sectors, and more related to general applications. Third world issues were voiced loudly and compellingly in, for us Europeans, the less familiar context of Latin America. The ethical dimension of new technological developments has also taken off as a subject of great concern. An important theme for me was that of "computing with a conscience", and the guilt we came to feel about ignoring poor countries and communities, and turning aside from the forms of discrimination built into much computing.

What about ideas for Maastricht in 1993, and still further, Berlin in 1994? First of all there was some reassurance. On this side of the Atlantic we have a tendency to fear that we have nothing to offer the Americans because they are so far ahead of us. That isn't the case. New Brunswick taught me that we are all struggling together with the same sorts of issues, and for the most part at the same stage of development. We share programs which go wrong or don't quite do the job properly; we both operate with a service profession (social work, I mean) which is full of people who continue their resistance to new technologies; and we both continue to share the task of making that vital push which will move IT in the human services away from the periphery into centre stage.

For Maastricht, then, we need to draw lots of IT people and academics, but even larger numbers of service practitioners and (dare it be mentioned!) consumers. We also need high profile demonstrations of programs which work perfectly and do a brilliant job. We have to associate ourselves ever more clearly and effectively with what matters in people's lives, which offers a reassuring relevance to the theme already chosen for Maastricht - IT and the Quality of Life.

CourseView - A case study

Peter Briggs

Abstract

The following article describes how a software programme called *CourseView* was used to evaluate the experiences of students who were just completing a one year social work training course (CQSW). It looks at issues of using the program itself as well as outcomes in terms of the information that it could produce.

Introduction

This will be the first article I have written about a computing issue. I am pleased it reflects, on my part, a growing confidence in new technology, but I certainly have no intention of writing what follows as though I were a self-proclaimed expert. Secondly I want to make it clear that I approach working with a computer without the slightest interest in how it works. I want to use a computer for what it can do not for what it is.

So why this article about *CourseView*? Well *CourseView* is (presently) a mainframe-based piece of software (but see details at the end of this paper for latest position - Ed.) which should enable a course leader like myself to find out directly from students how they have seen their studies. But more than this, it is also capable of compiling automatically the aggregated answers that students provide, into a report which is full of useful graphs and correlations. "The chore of preparing the course annual review report is over" I thought. "It's all done for me!" That is the theory, and in fact it is because the Academic Review Committee recognised the potential of *CourseView* as an evaluative tool that it recommended its purchase by computing services and requested that training in its use be provided.

What now follows is a case study of its use. As a case study it is inevitably personal to me, but I am hoping the issues it raises can be interpreted fairly broadly.

What *CourseView* can do

The way *CourseView* works is to help the member of staff produce a questionnaire about what (in my case) has been taught to students. Once composed, this questionnaire can be accessed by students at computer terminals and answered on the screen. What the member of staff has to do is develop the questionnaire - decide how many areas it will explore, in what depth, in what order and the type of questions to be asked. To help the user, *CourseView* provides a skeleton questionnaire which I am pleased to say is well suited to a higher education setting, and which comprises several sections - firstly information about respondents' sex/age etc.; secondly information about the institution eg. how good the library is considered to be; thirdly information about course units; and finally a section for open-ended questions.

Types of questions

CourseView gives the user the opportunity to define up to three different types of questions, (though within a pre-determined structure laid down in the software programme)

First - multiple choice questions eg.

AGE - Please indicate, by entering the appropriate number

- 1 = Aged under 25
- 2 = Aged 25 - 34
- 3 = Aged 35 - 44
- 4 = Aged 45 and over

Second - scaled questions using five points eg.

PRESENTATION - Was the presentation of class material?

- 1 = Dreadful
- 2 = Poor
- 3 = Fair
- 4 = Good
- 5 = Excellent

Third - open-ended questions eg.

Please comment here how you have found this computer-based evaluation exercise.

In the *CourseView* analysis most answers are given as a straight count. Certain others can be correlated against a number of user-determined factors, whilst answers to open-ended questions are collated and listed.

Problems of questionnaire design

I said earlier on that I would like a piece of software to work for me and on my terms. There were various problems with the questionnaire design that *CourseView* created and these I would like to see modified:

- 1) In wanting to develop a questionnaire that was specifically related to my course, little did I realise that *CourseView* **requires** you to work out the complete order of the questionnaire **before** you even begin to type it into the computer, for if at a later stage you want to change anything, you have to type in the whole questionnaire again - that cost me about 20 hours in lost time. It is of fundamental importance that *CourseView* addresses this issue.
- 2) The five point scale. Although *CourseView* allows the user to define the words to be used it does not allow you to use anything other than a scale with five points. I think greater flexibility is needed to allow a range of scales besides

that of just 5 points.

- 3) Course units. *CourseView* allows the questionnaire to define a maximum of 24 core units/option units. My course (perhaps unusually) has more than these and so I had to select the ones I felt were most pertinent for analysis.
- 4) For anyone who is used to a word processing programme, typing data during the preparation of a *CourseView* questionnaire is very troublesome. If you make a mistake you have to delete everything back to the mistake and start again. Secondly, every 70 letters you have to start a new line. At the very least some basic word processing characteristics need incorporating into the *CourseView* programme.

The exercise itself

The questionnaire was eventually prepared and the day arrived for the students to take part. Few of them had any computing skills whatsoever, so the success of the operation depended on good written instructions as to how to switch the machine on, etc. (my responsibility), and clear on-screen messages (the responsibility of the *CourseView* software) whilst students were undertaking the exercise.

A number of issues came out of this session:

- 1) Did students understand the instructions? Most students seemed to manage alright provided help was close at hand to deal with what were usually minor problems. I am not sure whether, for an exercise like this, help should come from someone who has a direct interest in the answers. Students are not in a position to cover the screen if they have just entered data that they really would like to remain anonymous.
- 2) Was the questionnaire the right length and sufficiently varied to maintain

interest? Whereas if I had been defining a questionnaire manually I would have used as varied a format as was consistent with the aims, *CourseView* is quite limited with respect to the internal styles that are possible. The students coped reasonably with an exercise that took them about half an hour but they did not answer many of the optional open-ended questions and at the end I think the comments of one student "...too long Peter!" came from the heart. It would help enormously if the software allowed a more varied type of questionnaire design. One thing that particularly struck me however was the considerable candour of some students' responses. Uniquely a computer can **guarantee** anonymity, as there is no handwriting to identify. Equally it is absolutely impossible to link answers to the respondents who gave them.

- 3) Could students use the keyboards? The answer to this seemed to be "yes and no". Yes, they could type in text but like most of our students they have never been taught basic typing skills and this really does produce some very ham-fisted results. The worst problem however was that if you pressed the <break> key by mistake (easily done) then all your work was lost and you had to start again. One student did this three times and was almost in tears at the end of it. To be able to destroy so catastrophically all your work with such ease seems a dreadful design problem. I am not sure with my present knowledge whether this can put right within the software or whether it is a "main-frame" problem.
- 4) How easy was it to get the report printed out? I was very much hoping that as soon as the students had finished I could get the computer to process the information and print it out there and then for the students to look at. There were three problems associated with this. Firstly I

discovered that my very limited workspace allocation on the main-frame computer meant that the calculations could not be undertaken without a further allocation of work space (this required agreement by computing service staff and then someone from computing services had to undertake some programming to make the space available). Secondly it was only possible to get the report produced on the printer attached to the mainframe in a building some distance away so I did not have the report immediately available to show to the students who are based in York House. Thirdly I had distinct reservations about the printing and layout of the report. Although the report was produced on a laser printer there was no choice of type faces, and any self-respecting typist would find the layout perfunctory to say the least. As all of us get used to ever higher quality in relation to printed documents, *CourseView* needs to be able to offer something rather more advanced in this area.

How useful were the results?

To some extent that depends on how appropriately the questions were formulated. Also the usefulness depends very much on what the individual hoped for when designing the questionnaire. By way of example I show on the next page the questions and answers that relate to one of the course units I taught where the five point scale is predominantly used.

So should we all be learning and using *CourseView*?

On the negative side it has taken about 40 hours of development time to understand a poor manual, an inflexible mainframe computer, and a questionnaire that is **not** as adaptable as I would like it to be. On the positive side, even with the reservations I have given, I ended up with an impressive report to present to the annual course review meeting which is full of

2. RESIDENTIAL WORK : GRAPHICAL AND STATISTICAL SUMMARY

Q.1 PLANNING & PREPARATION OF LECTURER

	10%	20%	30%	40%	50%	60%	70%
-2							
-1							
0	*****						
1	*****	*****	*****	*****	*****	*****	*****
2	*****	*****	*****	*****	*****	*****	*****

Dreadful	=	0%
Poor	=	0%
Fair	=	13%
Good	=	63%
Excellent	=	26%

MEAN RESPONSE = 1.1

Q.2 PRESENTATION OF LECTURER

	10%	20%	30%	40%	50%	60%	70%
-2							
-1							
0	*****						
1	*****	*****	*****	*****	*****	*****	*****
2	*****	*****	*****	*****	*****	*****	*****

Dreadful	=	0%
Poor	=	0%
Fair	=	25%
Good	=	50%
Excellent	=	25%

MEAN RESPONSE = 1.0

Q.3 ENCOURAGEMENT FOR FURTHER STUDY

	10%	20%	30%	40%	50%	60%	70%
-2							
-1							
0	*****						
1	*****	*****	*****	*****	*****	*****	*****
2	*****	*****	*****	*****	*****	*****	*****

Dreadful	=	0%
Poor	=	0%
Fair	=	13%
Good	=	63%
Excellent	=	25%

MEAN RESPONSE = 1.1

Q.4 RELEVANCE TO PROFESSIONAL PRACTICE

	10%	20%	30%	40%	50%	60%	70%
-2							
-1							
0							
1	*****	*****	*****	*****	*****	*****	*****
2	*****	*****	*****	*****	*****	*****	*****

Dreadful	=	0%
Poor	=	0%
Fair	=	0%
Good	=	63%
Excellent	=	37%

MEAN RESPONSE = 1.4

Q.5 STUDENT PARTICIPATION IN SESSIONS

	10%	20%	30%	40%	50%	60%	70%
-2							
-1							
0	*****						
1	*****	*****	*****	*****	*****	*****	*****
2	*****	*****	*****	*****	*****	*****	*****

Dreadful	=	0%
Poor	=	0%
Fair	=	25%
Good	=	50%
Excellent	=	24%

MEAN RESPONSE = 1.0

Q.6 GENERAL SATISFACTION OF TEACHING UNIT

	10%	20%	30%	40%	50%	60%	70%
-2							
-1							
0	*****						
1	*****	*****	*****	*****	*****	*****	*****
2	*****	*****	*****	*****	*****	*****	*****

Dreadful	=	0%
Poor	=	0%
Fair	=	25%
Good	=	50%
Excellent	=	24%

MEAN RESPONSE = 1.0

evaluative information my colleagues and I will be able to use.

Now to end where I began. I do want to be able to use software that does what I want it to and in a way that is convenient and understandable. *CourseView* has some way to go here. Yet as I write this an updated version of the programme, which can now be run on network PC's, is about to arrive in the Polytechnic. I have not yet had chance to see how many of the reservations previously raised have been dealt with in this update, but I would guess that the inputting and outputting of data will be somewhat easier. However one area which I know is quite unchanged is the continuing five point scale.

Having used *CourseView* I am certain I will want to explore the new version and use it again, But I also hope that the reservations I have offered will in due course be taken up with the company that makes the program. In the meantime I hope that what I have written might persuade those who have not previously dared to dabble with computers to have a go! But even

more importantly it is only through hearing users' views that programmers will respond to their needs. I hope this article has been of help here as well.

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The address of *CourseView* Ltd is Northgate House, St Mary's Place, Newcastle on Tyne NE1 7PN. Telephone 091 2611181. A comprehensive demo of the latest issue (3.3) is available from them. There are PC, networked PC and mainframe (DEC VAX, Prime) versions. Prices vary according to the type of installation and number of users. For small numbers (up to 10 users) the price of the PC version is £49.50 per user. For larger numbers (over 150 users) on a mainframe installation the price per user is quartered.

Personal Impressions

Kish Bhatti-Sinclair has worked for many years with a small voluntary youth work organisation. Recently she started a part-time secondment to the CTI Centre for Human Services, and offers some early reflections on the possibilities of her joint appointment.

My knowledge of Information Technology was sketchy before I began my two days per week with the CTI Centre. Word processing packages such as Locoscript and Word Perfect were familiar, but other more complicated programs were a mystery to me.

Working for a small under-staffed, under-resourced voluntary sector project is a demanding task: there is far more urgency to respond to the needs of the client group than to consider and make resources available for staff and their training needs. In, 1988 the the project acquired a small Amstrad followed two years later by a larger model. Although the Management

Committee clearly recognised the need for training for the administrative worker, it was reluctant to release time and money to train the 3 project workers. After some persuasion, however, they agreed and I began my emotional relationship with the personal computer. Having learnt to use the word processor, the problems began with sharing the only machine in the office between 4 workers.

Further training was not available and so I was left with limited knowledge and lack of easy access to the computer. During the few moments when I was not inundated with work, I felt mildly frustrated because I was not able to able effectively to utilise the only hardware within easy reach.

I was delighted, therefore, at the opportunity of working for the CTI Centre. I was particularly pleased because the Centre was doing some work on equal opportunities software - this being an area of work which is of particular interest to me. So I arrived at the CTI office and found 2 PCs, a portable and an Apple between 2 members of staff and the expectation of having time available to learn about them. Jackie Rafferty introduced me to two extremely good introductory books on the subject, the first *Computers in Social Work* by Bryan Glastonbury and the second *Computers, who needs them - a guide to computing for voluntary groups* by Charlton, Kosminsky and Lunnon. The latter has a glossary of useful terms which are a must for people who are new to IT jargon.

As time passed, I was able to look through some of the available software. Much of the material was aimed at statutory bodies and apart from needing some minor technical changes, are good for passing on basic information to specific target groups. The two programs which I looked at on welfare benefits (Lisson Grove and Ferret's Maximiser) are clearly excellent tools for smaller projects in the voluntary sector. From my perspective, the problems are not that the voluntary sector would find IT difficult to come to

terms with, but that many are not aware of available applications, and do not have access to a local agency whose role it is to guide, support and develop such innovative work.

The influx of communications systems such as electronic mail within local government has meant that the gap has widened between the IT haves and have nots, although I suspect that the use of such rapid communications between small isolated projects would greatly assist the work being done at the ground level. Gaining access to electronic information previously available only to local authorities could mean that voluntary projects may be more powerful and in greater control of future developments.

It is true that the voluntary sector needs all the help it can get, suffering as it is from funding difficulties and the possibilities of ill-resourced partnership arrangements with statutory services. If, however, true partnership is to become a reality, the sharing of information and databases is all important. The voluntary sector needs funding, training, practical and technical support, and the statutory sector can help go quite a long way towards providing it.

CARE PLANNING FOR FRAIL ELDERLY PEOPLE IN RESIDENTIAL CARE: A "GRASSROOTS" SOCIAL SERVICES INNOVATION

Dwayne Johnson and Oliver Coles

The purpose of this paper is to describe a computer-based assessment system for the production of individual care plans for residents of homes for elderly people. Its main interest lies in its having been devised in the specific context of permanent residential care. Entry to such care is frequently characterised as entailing a massive, sudden loss of autonomy for the client. This system attempts to minimise this shock by facilitating the systematic exploration of individuals' needs, preferences and interests. This innovation is also of interest in demonstrating what can be achieved with very limited computing resources given enough imagination and tenacity.

Background

Over the years both residential care for elderly people and Social Services Department procedures have been subject to much criticism.

Residential care has been characterised as offering an excessively regimented and monotonous existence to its recipients. Assessment procedures have been characterised as impersonal and too formal, and as

insufficiently related to what is actually offered to the client. Too often inadequate allowance is made for changes in elderly people's abilities, and to the scope for their recovering lost skills, and participating in valued individual and group pastimes. Formal assessments tend to dwell upon deficits in clients' functioning, highlighting such disabling conditions as immobility, memory loss and incontinence. Whilst the existence of such conditions must be known they must not dominate assessments, in the way that they dominate published dependency scales.

Both the White Paper (*Caring for People*) and major critiques of British residential care - notably the Wagner report of 1988 - emphasise the importance of frail elderly residents being treated as individuals, partly by means of being offered genuine, if limited, choices as to their lifestyle, routines and surroundings. By guaranteeing residents opportunities to participate in the formulation of their tailor-made care plans, and linking the implementation of these plans to the practice of key working by individual named members of staff, the innovation described here promises an escape from some of the more unattractive features of entering, and being in, residential care.

The Software Application Described

This consists of an information pack with standard record with eight broad headings, designed to contribute to three major concerns of good residential practice, namely (1) key working (2) service quality and (3) client participation.

The eight topics are the following:-

1. Philosophy

It is extremely important to study the philosophy underlying the information pack as the end result - the care plan - reflects specific needs. Creating a broader or less clear contract of expectations between staff and resident is unrealistic because of tight resource constraints.

2. Objectives

It is important that careful consideration is given to the objectives stated in the information pack as it informs all members of the profession and the client of the fundamental issues surrounding its use.

3. Front Sheet - Client Details

The front sheet incorporates the usual areas of interest about clients. However a number of additions were considered important. These include key worker, client's regular contacts and relationships. These were included because they identify the present and future relationships of importance to the welfare of the client. Because a computer is used, it is easy to change information, such as details of medication, on a regular basis. One can also update and review these often important areas of change.

4. Life History

General staff awareness of the life history of a client upon their admission to the home is scant. However, once a client is admitted to residential care we are offered the opportunity significantly to enhance the quality and range of information, and to construct a more comprehensive picture of his or her past life.

These interactions have many positive facets which reinforce positive elements of staff's perceptions. It creates respect and understanding for the client and is an essential feature for devising and reviewing the care plan.

5. Pen Picture

The pen picture is an important element in identifying a client's physical and behavioural patterns. It provides a broad view of the client on admission. It represents a framework within which to identify future improvements or deteriorations.

The client's self-image is also a significant area of interest as it enables the client to describe himself from his own perspective.

Many conclusions can be drawn from this description, such as happiness, interests and expectations.

6. Skills

The word skills was adopted because it is a more positive word than assessment. The latter term can often create apprehension in clients. Because the client is actively involved in his or her own assessment, the need for a large quantity of information has to be balanced by considerations of time and recording constraints. The pack allows the user to approach the assessment process in a systematic way. There is scope to record additional assessment requirements. These complement the current assessment forms which rely heavily on ticks in boxes and codes.

The main headings on the skills pages are physical, social and mental needs. These are not categorised in order of importance. Additional information which may be recommended by other professional sources can easily be added without altering the section's structure and format. A screen from the skills record appears as Figure 1.

Once each section is completed, client needs are prioritised. Each need is related to resources available and other constraints on meeting the needs. An example of such prioritisation is given in Figure 2.

The option of the "scoring" of needs in terms of their priority is one which will be investigated in the future.

7. Care Plan

When all the aforementioned information is related, the care plan is then produced. Figure 3 is an example.

Such plans are highly important as they attempt to maximise the potential of the client. The production of a care plan fully engages both the key worker and the resident. It can create a new feeling of mutual respect and understanding.

A few specific areas ought to be identified, prioritising these within the resources available. Placing too many points on the contract can promote unrealistic client and staff expectations. It can also often be confusing and vague. For example in one male resident's contract, only two areas were identified, one of which related to a highly specific bit of physical care. One may get the impression that fastening buttons on his rising and retiring to bed has no special significance. However, it was noted throughout the assessment process that he was preoccupied with his buttons. He informed the key worker that he felt both too embarrassed and too demanding to ask mainly female staff to undo his shirt buttons. Instead he went to bed with his shirt on and rose without fastening his buttons but hiding the fact by wearing a jumper. The staff's response to this information was to feel guilty and uncaring.

8. Implementation

Once the care plan has been agreed and decided upon the client and key workers are asked to sign and agree the recorded contract. Presently an informal fortnightly review process is in operation. Here the senior member of the home's staff assigns key workers, and the client discusses the contract to ensure all concerned are satisfied that it is being adhered to. This also gives those present the opportunity to discuss any difficulties or new factors that are causing concern.

Each care plan is attached to the resident's bathing programme so temporary staff can continue with the care plan when the permanent key worker is not on duty.

In Practice

In practice the information is collected by staff in the form of informal interviews with the resident, family and friends. Information details are also sought from professional sources such as GPs and social workers who have recently dealt with specific clients.

The information gathering is a lengthy process and is ongoing. The recordings appertaining to each individual client are logged into the computer. Initially the information brought to us by staff was recorded by myself, Dwayne Johnson and the Assistant Officer at Baydale. However secretarial support was obtained to complete this process. Once the initial files are established, large pieces of information are no longer required, so a small number of staff at the home, trained in-house, are able to input the additional information. This mainly consists of reviews, and information gained through further client-staff interviews.

Each client is allocated a code number to facilitate the input of or access to information. This is particularly necessary when carrying out the longitudinal assessment. The information produced on computer screen quickly enables one to view past and current assessments. Colour coding is also used effectively to highlight and identify areas of need. Particular pieces of information are viewed by going page by page through the record. The records are organised under the eight broad headings listed earlier.

It is recognised to be imperative that the contract for an information pack is drawn up with the client's full involvement. Experience of this process has found that honesty with the client promotes mutual understanding and respect. This in turn enhances the client/staff relationship.

Conclusions

There are many benefits to be derived from the use of the pack. For instance the man with the button problem has benefited from the increased attention of and the improved relationship with his key workers. He is proud of the printout of his life history which he had framed and hangs on a wall in his bedroom. This step in turn stimulated additional communication with fellow residents and staff.

Staff are developing new skills, such as interviewing, recording methods, assessment

processes and basic computer skills.

A major finding of an analysis of these care plans is that the clients are increasingly requesting various forms of stimulation. This has tremendous implications for policy. It has been pointed out that if forty of our forty eight residents request a minimum of fifteen minutes' constructive individual stimulation time then this will mean that ten staff hours per day will be required to meet this demand. This is a massive commitment in the context of current staffing levels.

To sum up, this new assessment tool, although modest in its use of computing expertise and resources has dramatically enhanced the quality of life of residents, and the purposefulness and variety of work by staff. In addition to providing a role model for the forty-odd other homes for older people run by the Social Services Department, it promises to contribute to, and dovetail with the more comprehensive client assessment tasks being prepared in connection with implementation of the national community care strategy. Of particular value is its clear demonstration of the feasibility and value of giving service users a voice, as of right, in care planning, and in sensitising care staff to the varied needs and concerns of a very vulnerable client group.

National recognition of the value and originality of the care package has been reflected both in numerous enquiries from other agencies, and the award of £1000 by the Social Workers Educational Trust to further its development.

Dwayne Johnson is an Officer-in-Charge, and Oliver Coles was Performance Review Officer, in Durham Social Services Department.

FIGURE 1

SKILLS 1

DRESSING

25.10.90 25.1.91 25.4.91

1. Dresses independently and completely
2. Dresses unassisted but needs prompting
3. Dresses but needs assistance with zips, buttons etc.
4. Manages larger items but not smaller items
5. Manages smaller items but not larger items.

UNDRESSING

1. Undresses independently and completely
2. Undresses unassisted but needs prompting
3. Undresses but needs assistance with zips, buttons etc.
4. Manages to remove larger items but not smaller items
5. Manages to remove smaller items but not larger items
6. Unable to undress, needs constant assistance.

APPEARANCE

1. Interested in state of dress, appropriately selects clothing
2. Shows little interest in state of dress but able to select appropriate clothing
3. Interested in state of dress but unable to select appropriate clothing
4. Disinterested in state of dress, unable to select appropriate clothing

BATHING

1. Able to bathe with minimum supervision
2. Requires assistance to bathe

WASHING

1. Washes and dries completely and independently
2. Requires assistance with washing and drying

FIGURE 2

PRIORITY

SKILLS ONE	SKILLS TWO	SKILLS THREE	SKILLS FOUR	SKILLS FIVE	SKILLS SIX
1. Needs assistance with buttons	1. Requires assistance with teeth	1. Continent day and night	1. Gives good account of past events	1. If persuaded joins in activities	1. Requires help serving drinks
2. Requires assistance to bathe	2. Requires assistance with hair, nails	2. Speech clearly understood	2. Patchy on current events	2. Enjoys company of others	2. Needs no assistance handling cutlery
3. No assistance washing, drying	3. Walks unassisted	3. Converses fluently with anyone	3. Loses way requires guidance	3. Reads books and magazines	3. Disturbed sleep pattern
4.	4. In and out of bed unassisted	4.	4. Remembers name, age, birthday, religion	4. Writes signature	4.
5.	5. Unassisted use of toilet	5.	5. Humorous, tells funny stories	5. Adds and subtracts money	5.

FIGURE 3

CARE PLAN

This forms the basis of an informal contract between staff of Baydale Lodge and Mr. X. It has been agreed that Mr. X's key workers will undertake the following points:

1. Physical Care

The buttons on Mr. X's clothing to be fastened/unfastened each morning and evening when he is dressing and preparing to retire to bed.

2. Communication

Structured time for conversation of at least fifteen minutes per day, excepting Tuesdays, to be offered to Mr. X by one or both of his key workers. The topic of conversation to be chosen by the participating parties.

Developing Software for Social Workers

Philip Boyd

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1. Introduction

This article seeks to address the issue of how to develop software packages for an environment within which individuals work in a very individual way and different groups doing the same job organise themselves differently. It will look at the broad groups of software generally available, approaches to software development and the tools available to produce good software which is robust, suited to its purpose, usable and welcomed by users rather than simply tolerated. Finally it will review five possible models of software development which might be appropriate to social work teams and agencies. Good software is expensive to develop and moderately expensive to maintain. Average to bad software is relatively cheap to develop and very expensive to maintain. The consequence of this is that no profit oriented organisation has any incentive to develop application software either good or bad, which will not show a profit.

Assumptions.

Compared to task centred software in the commercial, industrial and financial sectors there is a dearth of software designed to assist social workers in undertaking social work tasks as opposed to management software for social work departments. What software is around is neither easily available nor useful to a broad range of social workers working in diverse agencies. Social work agencies are not sufficiently similar to one another to be able to benefit from say 50 copies of a bespoke system which would bring its price within a reasonable range. Social work agencies have very tight budgets and many managers can find better things to do with money than to spend it on "background" software. Social workers are likely to use computers for relatively short periods in their working lives and consequently require interfaces radically different to those found in commercial environments.

The Commercial World.

Leaving aside very large scale and novel developments such as operating systems and weapon control systems, commercial software

falls into 6 broad groups.

1. Non-tailorable applications packages eg. Wordstar.
2. Tailorable packages eg. Accounting Systems.
3. Software Development Tools eg. Supercalc, DBase, Lotus.
4. Code Generators eg. "The Last One", Friday.
5. Small commissioned applications eg. computerising the corner shop.
6. Large commissioned applications eg. Computerising a bank.

Non-tailorable Applications Packages. These packages set out to enable the user to computerise one specific application. They are tailorable only at the margins, are bought off the shelf, and by and large, insist that users do things their way. If one does not like the way they operate, one buys a competitor's package, or does without. Few people commission or produce their own Word Processor.

Tailorable Packages. These have a little more

flexibility in that one need only buy the modules one requires and can dictate one's own output format and, sometimes, input format. As a comment on packages generally, because of their relative inflexibility, it is the user's responsibility to pick one or other type, having regard to performance, interface capability (with other packages), cost and "fit" to the job to be done and the user. The advantage is that they are relatively cheap and involve no development on the users part.

Software Development Tools. These systems essentially provide a type of framework eg. spreadsheet or database and leave the users to write their own software within that framework. Again, they are relatively cheap to buy but much more expensive to get to the required end product.

Code Generators. Something of a halfway stage between development tools and packages, these seek to produce flexible systems without the skills required to use tools. They are less flexible than tools and are still relatively expensive when used to try to produce an optimum system, because they do not undertake system design.

Small Commissioned Applications. Here one is thinking of a single site, perhaps a small shop selling widgets. It has something in common with other shops selling things other than widgets and something in common with other widget shops but, because of the individual nature of the owner and the clientele, cannot be said to be very similar to either. An analyst is required to look at the whole business and to make recommendations about computerising (or not). The analyst would assess that particular widget shop and consider what systems would benefit from computerisation, what packages could be used, to what extent other merchandising software and/or specialist widget merchandising software could be re-tailored to suit this widget shop, and how much of this widget shop's software would need to be custom built.

Large Commissioned Applications. The Royal Automobile Club (RAC), an organisation which deals with millions of car breakdowns every year, has commissioned such a scheme. An analyst for such a scheme starts from scratch analyzing and computerising data and resource flows within the organisation, and the whole scheme depends on a common approach throughout the organisation. At the minimum, each and every telephone call to any of the Service Centres will be handled identically from a data point of view, and each and every patrol officer will receive data, parts, etc. identically.

Software Development Models for Social Workers

Large Commissioned Applications. The level of commonality and control required to implement a system such as those of the RAC or a banking system simply does not exist among social work agencies and perhaps not even within them; therefore the development of a large prescriptive system is impossible. Social work teams have much more in common with the widget shop and, that type of example may well be the ideal way to develop software. The corollary of this thesis is that the product only "fits" that one team or agency, and is not transferable to other social work teams. It simply becomes an entry in the analyst's repertoire which may be re-tailorable or partially useful by the subject of the next analysis, but may not. It is unlikely that features required by Team B but not present in Team A's system could be successfully bolted on and the further down the line one went, the more the design and maintenance capability would decay.

Individual Bespoke Applications. The advantage of the one-off analysis and design for each team or agency based on the widget model would, given appropriate design and development techniques, be 100% take up (at least for as long as the key staff were in post). The disadvantage of this model is that it would cost a fortune to implement on a large scale. It

may be suggested that numerous teams be analyzed at once and a comprehensive system be developed to cover all their requirements in one area of work. The cost implications of such an approach are staggering. It may be that some teams or agencies can raise large amounts of money for such applications, and if a team or agency is able to fund its own computerisation then perhaps it is reasonable for it to do so. It should not however expect its individually designed software to be immediately useful to others engaged in work in a similar field, and it would be most unwise to use the potential sale or distribution of such software as an excuse to develop it.

Do It Yourself. A solution which is immediately attractive is for a team to buy a language, code generator or software toolkit and make their own packages. Writing as a social worker turned software consultant, who learned most of his computing on a social work course, this is where I have to come clean. People commonly pay social workers to do social work and not to develop software: software development is, in its way, as complex and difficult a business as social work and people who are not trained in software engineering generally, with some exceptions, produce bad software which falls to pieces when they leave the organisation or give it to other people.

On the other hand, there is no profit to be made in making software for poor social workers who will use it to help even poorer people and not make any money in the process. So who will make software in such circumstances if social work agencies don't make their own? Perhaps the answer is to train some social workers as software engineers. Wastage would however be high because social workers, being bright people, would soon notice that software engineers earn twice as much as social workers.

The Package Approach. This is perhaps the best practical approach within the resource constraints of social work. One would seek to

develop packaged modules directed to a particular task rather than to more general areas of work. The aim would be to produce modules which were marginally tailorable by the user and a little more flexible at system level but not greatly so. The base for development would be:

1. Ideas generated by the social work staff.
2. Refinement of ideas by a large group of managers/social work staff.
3. Requirements specification by a small group of potential users prepared to invest considerable amounts of time in the exercise.
4. Software commissioned and developed by a software house or team of thoroughly trained staff set up as a national or regional social work software development team.
5. Prototype issued to the specifying group and possibly a wider group for comment.
6. Version One issued to any interested party on the strict understanding that they report back in detail.
7. Further versions with enhancements/alterations to be regarded as maintenance.

This approach fits well with limited resources but the big disadvantage of such a package approach over the widget approach is that any such package will not meet the needs of 100% of potential users, and they cannot shop around for a similar package which is a better "fit" with their way of working. However, if packages are well designed, it should be possible to add some of the features they require at the enhancement stage and, if all else fails, the DIY approach of tools and code generators remains open to them.

The Software Engineering Approach. This approach stops short of actually producing

computer programs. It uses modern structured software development techniques to produce a complete, detailed system design which is essentially similar to an engineer's blueprint. With this design, any other software engineer can pick up the design and build the software quickly and easily. It follows from this approach that designs can be developed centrally or regionally or by a particular agency or team. That group can then build its own software from the designs and these detailed designs can be made available to others who can modify them as they wish, and build their own software to suit their own applications, but starting from a solid base with perhaps 90% of the design work done for them. There are a number of readable, informative books about software engineering techniques on the market and it would be silly to attempt to summarise any or all of them here. One very good and readable book to start with is *The Practical Guide to Structured Systems Design* by Meiler Page-Jones published by Yourdon Press, New York. The basic concept is that one starts by drawing diagrams of what one wants, from the top down and then breaking big jobs down in to smaller ones, breaking those jobs down into even smaller ones and so on until ones reaches a level where there are a lot of very small and simple jobs which can be individually tested and verified.

From Design to Software. Given these tools, it is an easy, almost trivial job to turn the detailed products of structured design into files, records, variables, procedures, modules and programs into computer code in any programming language.

Alterations to Design. Anyone who has tried to change another person's program code will have the scars to prove it: it is just about the most bloody job imaginable. Alteration of the products of structured design on the other hand is far easier because they are mostly diagrams and any text is written in real english, not computerese, so modifications made at the pre-programming stage are much easier to

achieve.

Conclusion.

Perhaps I have painted a pessimistic picture of future software development for social work. However, I believe that the existing paucity of programs which help social workers to do social work justifies this pessimism fully. Software development is expensive: good software is expensive to start with: bad software becomes expensive very quickly. No-one makes a profit in social work so no-one is prepared to stump up the money to produce software tools for social workers. Social workers themselves are person orientated and not particularly task orientated, so they do not demand software tools. So development of such tools proceeds at snails pace compared with other areas. Perhaps the future will provide the strategies to produce good software tools which are generally available to a broad spectrum of social workers, but such tools will not be produced without imaginative planning, carefully thought out and implemented strategies and most of all, a will to harness information technology for the benefit of poor and disadvantaged people.

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