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**Chapter XVI**

**Aligning Multiple  
Knowledge Perspectives in  
a Health Services System:  
A Case Study**

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**ABSTRACT**

*This chapter reports the results of a feasibility study into electronic collection of service data at “point of delivery” for disability programs. The investigation revealed that while the proposed system would have produced more fine-grained data, it would not have improved any actor’s knowledge of service delivery. The study illustrated the importance of context in the transition from data to knowledge; the diffused and fragmented organisational structure of social service administration was shown to be a major barrier to effective building and sharing of knowledge. There was some value in the collection of detailed service data but this would have damaged the web of relationships which underpinned the system of service delivery and on which the smooth functioning of that system depended. The study recommended an approach to managing the informal and tacit knowledge distributed among many stakeholders, which was not especially technologically advanced but which supported, in a highly situated manner, the various stakeholders in this multi-organisational context.*

## INTRODUCTION

The provision of human (health and social) services by the State is necessarily a geographically and organisationally distributed activity. Such an activity sets a range of interest groups with a variety of requirements within a single problem context. Government-run healthcare systems are large-scale and include many divisions and linked organisations. They must manage varied (and sometimes contradictory) interests of the parties involved. In many ways it is difficult to align the goals and perceptions of participants into a coherent and effective knowledge management system. Information can become knowledge only if the context in which it exists is understood. Coming to an understanding of this rich context is a key challenge for government.

There are many stakeholder groups in these systems, each with their own interests and goals and while these are usually not irreconcilable, they are not always in harmony. This may involve different views about both the level of service, as well as individual choice of service options. There are potential conflicts among stakeholders over balancing accountability and organisational information needs with the privacy and dignity of the individual. The context of service provision is complex as is the relationship between the service providers and their clients, which is often a long-term relationship. An effective KM system for such an organisation would need to manage the informal and tacit knowledge that is distributed among many stakeholders and is highly contextual. In an area where there is such sensitivity and the personal and interpersonal issues are so central to the well-being of the clients, KM initiatives have the potential to be positive but may also have negative consequences for vulnerable clients.

In this chapter, we discuss a study which we and a number of colleagues undertook for a government department responsible for the provision of services to people receiving **disability** benefits. In assessing a proposed **electronic data collection** and payment system for disability services, we gained insight into the nature and importance of knowledge management for health and **social services**. Contrary to our expectations, we concluded that the most significant impediment to the effective creation and sharing of knowledge was the highly diffused, fragmented, interlocking organisational structure of the social service administration itself. Our investigation raised few issues about the technicalities of information collection and explicit knowledge management, but it did raise many issues about the design of the underlying organisational system for service provision, the level of detail required in the service data and the locus of decision-making power among the stakeholders. All of these issues bear directly on the system's effectiveness in providing appropriate services to disabled clients.

Governments have shown a keen interest in the use of information technology in healthcare delivery as a mechanism to improve quality, access and efficiency. Improved information systems and technology are essential components of managed healthcare (Shortell et al., 1994; Cave, 1995), which focuses on increased cost consciousness and a more market-driven industry with increased competition. To some extent Australia has followed the US shift to managed care, although the reaction has not been entirely positive (Stoelwinder, 1990).

The use of technology and innovation in restructuring healthcare delivery (Geisler, 2001; More & McGrath, 2002) has been indispensable, particularly in its ability to support explicit knowledge capture and transfer (Fedorowicz & Kim, 1995; Detmer & Shortliffe,

1997), but it also raises cultural and ethical issues associated with patient care (Menzel, 1992; Moore, 1994).

## SOCIAL SERVICES PROVISION IN A DISPERSED NETWORK: A CASE STUDY

In 1998 our team was engaged to conduct a feasibility study for one section of an Australian government department which provided health and related social services. We were asked to assess whether an advanced IT solution (*viz.*, the use of electronic recording devices to document those services as they were provided to the clients) could provide better quality data and more effective reporting than the existing system. We were asked to advise whether the replacement of the existing paper-based system by an electronic system would help those agencies which delivered the services to report against their obligations under their service contracts. This was driven by government concerns about system inefficiency, inaccuracy, financial accountability and the need for service planning. From a KM perspective the department was looking for improved knowledge capture and transfer at the same time as delivering an improved level of service. They hoped these information system changes might help them improve their performance in the areas of procedures, rules, daily management of the system and their decision-making ability: the “managerial aspect” of their organisational knowledge (Gao et al., 2002). Identifying and capturing knowledge, connecting people to people through electronic means, and sustaining an organisation’s growth and learning ability are common themes in most KM projects (Chong et al., 2000). This project focused on the first of these goals, building an electronic repository for organisation knowledge captured.

There were three major stakeholder groups in this context:

- The government Department of State Services (“The Bureau”) included a centrally-located head office and a number of regional offices. It assessed applicants for care and determined the level of their care entitlement. It was responsible to the Minister for State Social Services and accountable through her for appropriate support to people needing disability care. Prudent and economical expenditure of public funds to achieve these aims was a prime **political** goal of the Government.
- Independent (non-government) **agencies** were contracted to provide care to the recipients. They were paid in advance for services to be provided and the accounts were subsequently reconciled on the receipt of delivery data. The agencies employed staff (often non-skilled and hourly-paid) to deliver the services either in a care centre or in the homes of the recipients.
- The **clients** were people with a range of disabilities from motor-muscular impairment to severe intellectual disability. Most were reported to have multiple disabilities. The majority of clients required family care-givers to manage for them as a result of their intellectual disability. Several welfare and advocacy groups provided support and advice to the clients and represented them in political forums.

Our investigative approach was broadly guided by the conceptual foundations of **Soft Systems Methodology** (SSM) (Checkland 1981; Checkland & Scholes, 1990; Checkland

& Holwell, 1998). We chose an SSM-style approach to analyse this context because the issues of health and human service provision were the subject of public controversy and SSM is well suited for dealing with **multiple perspectives** and conflicts. It provides a means of examining real world problems and accommodating diverse interests. As a cyclic learning process, knowledge management can be examined through the SSM lens, which offers insight into how an organisation learns (Gao et al., 2002).

## STAKEHOLDER ANALYSIS

The team held a series of consultations with Bureau staff in the service management and IT areas (11), agency managers (nine), direct care providers employed by one of the agencies (five), clients (five) and representatives of client advocacy groups (three). Members of four other provider organisations were also interviewed. All information collected during the consultations was treated confidentially by the team and the participants were candid and informative as a result. In the consultations we asked about current practices including technology use, information needs, organisational relationships and any difficulties with service provision or its management. The line of questioning varied depending on the stakeholder group interviewed. This dialogic approach yielded a thorough understanding of the range of practices and solid insights into the various perspectives and interests of the groups. They also provided much material on the contextual issues, reflected in *Figure 1* as a Rich Picture<sup>2</sup>.

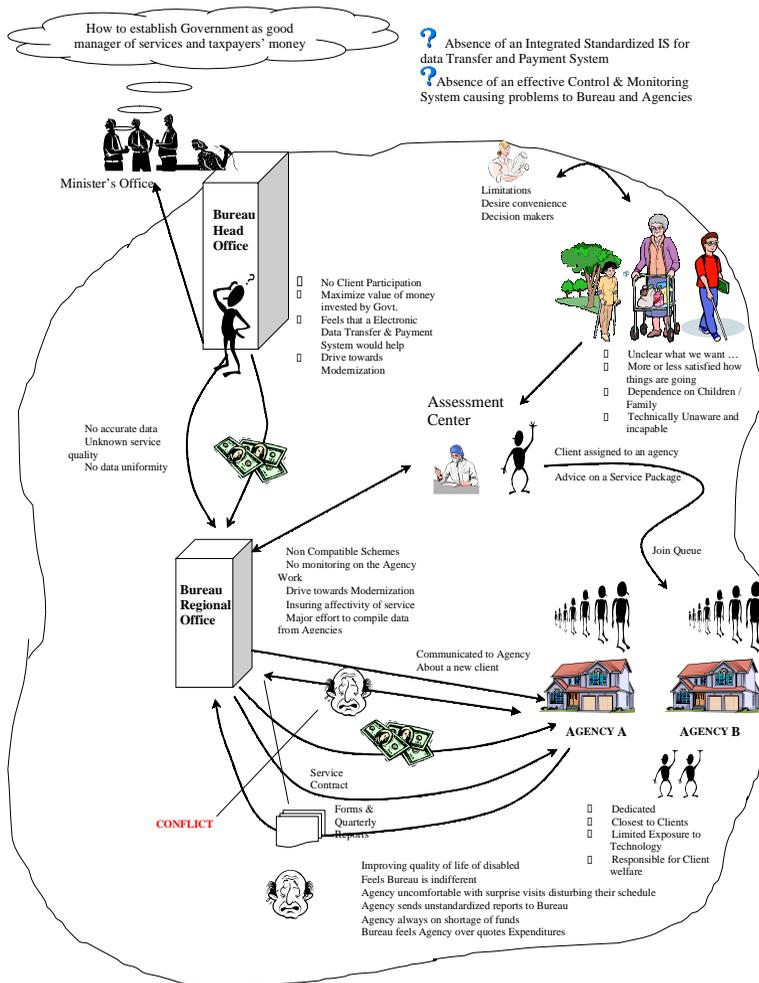
In this multi-organisational context, overall responsibility was held by the Bureau which:

- evaluated individuals' eligibility to receive services;
- contracted with provider agencies (often charities) to supply services to those people with disabilities who had been evaluated and allocated a benefit; and
- maintained a waiting list of eligible individuals and allocated them to a suitable place as they became available within the system.

The existing administrative practices involved paper-based capture of service data at the point of delivery by the agencies which provided electronic summaries of services on a six-monthly basis. This system was acknowledged to be laborious and inaccurate with considerable problems of interoperability between agency systems and a variety of systems used by Bureau branches. It was not easy to use and often the data that were submitted did not conform to the required format, were unreadable and could not be amalgamated for analysis and storage.

The care system was extensive and even the two programs we were asked to examine served 5,500 clients through over 300 outlets. The two programs were designed to provide support for people who suffered disabilities which made it difficult to manage daily life. One program, Day and Respite Care (DARC), provided activities, training and a safe environment for clients during the day, usually in a centre but activities were often conducted elsewhere. Clients commonly attended programs with the same organisation for years on end. Most DARC users were intellectually disabled and many had multiple disabilities and behavioural problems. Contracts between the Bureau and a DARC agency were not written with respect to individual clients. Instead, blanket contracts were written to provide care places for a specified number of people for a specified number

Figure 1: Rich Picture of Benefit Allocation and Service Management



of months. A client was listed as a recipient of care by a particular agency, often one which specialised in his type of disability and, were he to leave this agency, he would go back on the waiting list. This was a major barrier preventing people from “shopping around” or changing agencies and the Bureau was concerned that clients should have more choice and flexibility in their service providers.

The second program, Home Based Support (HBS), was typically accessed by people with mobility problems (such as paraplegia or muscular dystrophy). Many HBS clients had no intellectual disabilities although all were seriously and irreversibly disabled. Care was provided at designated times during the day (such as help with bathing and dressing). HBS care could also be provided outside the home, such as help with

shopping. Because this type of support was provided flexibly, clients could choose which agency supplied their care. Some did “shop around,” but in many areas there were few agencies and thus, not much effective choice.

A number of attempts had been made earlier to bring together a coherent system of data reporting across programs, but there was still concern by members of the Bureau that they received incomplete and inaccurate data from the agencies on service provision and that they might be paying for services that had not, in fact, been delivered. In a system where there was pressure on funding (and waiting lists for services), any such inefficiency would have a negative effect on the delivery of care. In line with government policy and legislation, the Bureau wished to move to quality service provision centred on the recipients and to empower them to find services from the providers that best met their needs. Thus, rather than being obliged to access their care services from a designated provider agency, clients would increasingly choose both services and service providers to suit their needs, a situation that would require more effective management of knowledge both about a client’s needs, but also about a complex and changing array of services used.

The KM system envisaged by the Bureau would enable improved client care supported by accurate collection of service data. It sought distributed access to knowledge about clients for the various regional Bureaus (sometimes clients accessed services through more than one region) and support for their planning, performance monitoring, administration and management of contracts with the agencies. The system would also need to be affordable, easy to use and reliable. The Bureau sought more control over a large and diverse sector by gaining more accurate and timely data on service provision. This, they hoped, would enable better allocation of resources, cost saving and greater accountability from agencies.

The perspective of the agencies was very different. The funding they received from the Bureau was often barely sufficient to cover the demand for their services, so they had little margin in budgetary matters. They experienced considerable difficulties with the reporting structure and several complained about errors and malfunctions in the lodging of reports because of the Bureau’s format. The lag time between data reporting and reconciliation of accounts was also problematic for their planning. The agencies we consulted (six in total) reported few difficulties in maintaining data on service provision but many difficulties in reporting this on to the Bureau.

The agency managers’ response to the proposal for an electronic data collection system was cool (and in some cases strongly opposed). They objected to the mismatch between the highly specified conceptualisation of service delivery and the real-life context in which service was delivered. In one DARC agency this problem was vividly described<sup>3</sup> by a long-standing member of its staff.

*Although a service is defined as “attendance,” this may not reflect the real costs of providing that service, especially if it is disrupted and extra work or financial outlay is required to deal with the disruption. For example, many of our clients’ disabilities mean that they have behavioural problems and can become violent. So, say we’re getting a group ready to get onto a bus for an outing. One person has a behavioural incident. He hits another client and breaks a bus window. We have to send him home (he obviously can’t continue on the excursion in that condition). We have to get the person he hit to a doctor, which requires getting an extra staff member called in. We*

*also have to get the window fixed. It's not out of the question that this incident may trigger other behaviours among the others who are waiting, some of whom may also have to be sent home. In the scenario you're painting [of the single data entry for a service], we're trying, in the middle of this chaos, to manage swiping everyone's smartcards. The Centre has, maybe, three cancellations plus several extra costs. How does that help us deliver service or our clients to get better service?*

This raised the question of what data to collect in an electronically-based system. Service provision was not well categorised and did not relate closely to the actual activities that were performed at the DARC centres. Capturing the knowledge about attendance at DARC facilities on a daily basis was seen as trivial since clients enrolled for a series of sessions over several weeks. There were rules about attendance levels and if a client was absent for more than a few sessions, they risked forfeiting their place, which would then be allocated to another person on the waiting list. These Bureau rules, designed to keep the system operating at or near capacity, presented some difficulties for the DARC agencies. A client might decide to discontinue attendance for a time, either unaware of the longer-term consequences, or because their decisions were shaped by extraneous factors. Several agency staff reported cases like the following:

*We had a young intellectually-disabled man who was quite happy at the Centre. But his father wasn't too happy about that and this got worse as the kid got older. I do not know what the father's problems might have been, but he absolutely insisted that his son leave the Centre and "grow up." We had known the son for years and we knew it would not work for long — he required just too much care and he could not become what his father hoped. We told his father that he'd need a place again soon and that taking him out would put him back on the waiting list and all. But the father could not be persuaded. What could we do? Well, we didn't notify a vacancy and in the meantime we were able to include a person travelling from interstate — we identified them through contacts with colleagues. Of course, within a few months the young man did return as we knew he had to, but he would have forfeited his place had we strictly adhered to the rules.*

The professional staff in the agencies had to manage these absences knowing that the client would need and want to return later, but not within the time stipulated by Bureau regulations. Conversely, clients often arrived at the DARC on days they weren't scheduled to attend, because they were confused about the day or simply wanted to be there. Because of their dependency, agency staff rarely turned them away but the agency incurred some additional costs in providing for these unanticipated attendees. Agency managers juggled these contingencies in order to satisfy the care needs of their clients, the demanding budgetary constraints and the employment needs of the staff they relied on. Their solutions were sometimes creative but, in our view, always oriented to the goal of providing appropriate care for as many clients as possible.

The HBS program had few problems with clients' behaviour. Its clients usually could competently conduct their own care management. Many planned ahead and saved some of their service allocation for times when they anticipated greater need. The HBS agencies typically provided them with monthly accounts. On the face of it, the HBS program seemed well suited to electronic data capture and management. However, when

we asked about an electronic data recording system, both direct care providers and HBS clients were vociferous in their opposition. They both saw this as an undesirable attempt to monitor the care providers more closely by getting them to “clock in.”

In the HBS program (as with DARC) there was evidence of considerable unofficial flexibility to meet the clients’ needs. Direct care providers reported that they would provide additional, uncharged services to clients when circumstances required this. Agency managers frowned on this practice and Bureau staff seemed largely unaware of it, but the relationships between care providers and care recipients were often valued by both of them and a degree of give-and-take seemed to suit both. There were a number of other programs in the social services area that had implemented electronic systems for keeping track of service (the measure was minutes of service provision). These programs provided domiciliary support to a broader clientele and were reported to work well. But the HBS care providers we spoke with found this system offensive and one told us she would not work in such a system, even though the pay was higher, because she did not want to forfeit the degree of autonomy she had in her job. Some clients also rejected this technique as inconsistent with the relationships of trust that had developed between them and their care providers. The system depended to a significant extent on the dedication and sense of vocation of the direct care providers. An intrusive, disciplinary data collection system could damage that dedication and the agencies were well aware of this.

*Our care-givers are chosen for their professionalism. The HBS focus is about assisting people whose daily living is compromised and it is especially important to maintain the individual’s dignity. If such staff are not treated with respect by the agency, they will not continue the work. It takes a very special person to get up at 6 a.m., drive for an half and hour in the dark to wipe someone’s bum for a modest wage. If they are given decent wages and trust and their professionalism is recognised, they will provide good service and deal with the agency honestly. There is a difference from other home-help schemes which provide short pieces of assistance such as those run by local government.*

Both DARC and HBS agencies feared that a more fine-grained data collection system would have the effect of reducing the level of service to clients. DARC centres could only lose (when clients did not attend), while additional services (to those who attended for extra sessions) could not be recognised as it would exceed their allocated benefit. Importantly, it would erode the agencies’ ability to manage the complexities involved in providing care to people whose lives cannot easily fit into the logic of bureaucratic order.

In addition to the data collection issues, there were significant usability issues in the proposed electronic data collection systems, especially for intellectually disabled clients. One of the mooted solutions was the use of Smartcards to collect and store service data. As a technology, a smartcard has much to recommend it. As a device to be understood, remembered, carried and used by clients, it presented an unmanageable challenge. We discovered that many direct care providers (often not highly educated) and very many clients (usually intellectually disabled) did not understand or use such common devices as magnetic strip cards or credit cards. At that time, at least, the training costs for introducing such a system would have been high. Further, one DARC centre reported that the daily loss rate of (nonelectronic) ID cards issued to clients attending

a program outside the centre approached 100%. Replacement costs for electronic devices at even a fraction of that rate would have been prohibitive. Alternative devices (such as chips embedded in jewelry) were seen as socially stigmatising. In any case, the current system of paper-based data on service provision was judged to be sufficiently accurate, usable and flexible between direct care-givers and the agencies.

It was not possible (for ethical and practical reasons) for us to consult with a broad range of clients. The clients and their care-givers with whom we spoke were very satisfied with the agencies and the individuals who provided their care. They reported few problems in keeping track of their service allocations or receiving appropriate care. But they were largely unaware of the services they might be able to access or the rules governing their access to care. This information was often provided by agency staff, but as it was not officially part of their role, it was a matter of luck whether clients were fully informed. The knowledge requirements of a client were not fixed and a change in their circumstances for any reason meant that new issues would arise and they would need to access other sources of support.

The Bureau was aware of these needs and was working towards a person-based system of service provision. The transition to this approach was hampered by the lack of a universal case management system for clients. Some clients managed their own cases or had family members who could do this. Some had a Bureau-appointed case manager and some received assistance from an agency, but this did not cover all clients by any means. Another factor which hampered the accessibility of information was the complexity of the system of service provision. This was structured into a series of support programs which were not unified into seamless service provision. Some of the Bureau and agency people we consulted claimed that this was partly the result of the political pressure on Ministers and governments to produce initiatives to demonstrate government action in social service provision. A new program could be launched with considerable fanfare, whereas incremental improvements were far less newsworthy. They argued that this had resulted in the unintegrated and changing system of care which was opaque to many of the recipients. It was problematic for knowledge management focused on care provision to the individual rather than a program or agency basis. We found no evidence that agencies were abusing the system by providing lower service than stipulated in their contracts, although it was not impossible for an agency to do so given the problems of the reporting and data management system. If a case of agency mismanagement of funds had arisen and been made public, this would have been embarrassing for the Bureau and the Minister and detrimental to the whole system. Thus, the goal of the Bureau to have an accurate system of service data reporting and management was a reasonable one, even if the proposed solution was not feasible.

Our account here illustrates the existence of multiple, incommensurate, but valid perceptions of human service provision. Our analysis of this context is primarily in terms of decision-making, and highlights three important issues:

- *The Silo Effect:* Multiple and separate programs, developed to meet diverse needs, can lead to fragmentation and can undermine the ability of the system to provide the requisite information to the people who need it. Lack of a comprehensive view of such a system undermines informed decision-making.
- *The Granularity Problem:* Common sense would suggest that the more detailed the information is that is made available, the greater the ability to understand it and thus manage a system. However, if the level of detail is not appropriate to the

context, it can detract from knowledge creation and distort the system itself. Finely grained information (even if “accurate” at one level) does not add to knowledge. The challenge is to strike the right level of granularity of data collection and management for the context to which it applies.

- *Locus of control and decision-making*: Data and the associated knowledge system are relevant primarily to improve decision-making of all the stakeholders. The locus of control for various types of decisions is important. Knowledge quality and availability need to align to the relevant decision-maker. With multiple stakeholders, the issue of control will be an important issue for a system. The challenge here is to design a system with the potential to deliver the appropriate type and level of control to each stakeholder group.

These three elements are interrelated. The existence of silos influences granularity questions and shapes the decision-making processes. The granularity of data collection is intimately connected with the issue of which stakeholders can access information, how relevant it is to their concerns and how they can use it to make decisions. The locus of control will influence the way each of the other elements operates and is a fundamental aspect of the balance of power within the system.

The information granularity issue presented significant problems. Much of the service information provided to the Bureau was extremely coarse-grained (e.g., some providers were required to acquit their entire budgets on a biannual cycle) while other parts of the system were very fine-grained (e.g., other providers were expected to provide data on service provision in small, specific time chunks). In general, the Bureau wanted finer levels of granularity of service data collection in all cases, whereas the agencies preferred a more coarse grained focus that would give them greater management flexibility. The clients’ focus, in contrast, was on gaining access to services that could support their lives in the community. The granularity issue for them was important only insofar as they could get adequate support; otherwise, it was irrelevant at best and intrusive at worst.

While defining, collecting and analysing data at a fine degree of granularity can be a benefit in a highly-defined, predictable context where the environmental variables are well known, in this complex human services context, more precise data would have produced few benefits (in terms of better system understanding and better management tools) and would have been counterproductive to understanding the needs of the service recipients and attaining the ultimate goals of the system. Coarse levels of granularity are important where the services delivered involve holistic care and where the recipients are highly dependent. Finer granularity is appropriate where the end-users have greater power, where the delivered service is routine and defined and where the service context is relatively independent (e.g., routine domiciliary services), though even these systems may be deceptive and incorporate a higher degree of flexibility and negotiation than their designers and managers are aware.

Silo structures obscured information from the clients whose needs were highly individualistic and changing. A multitude of separate and overlapping schemes of service provision, each with its own administrative structure, rendered the system as a whole unintelligible to all but those expert in its mysteries. These schemes were designed to provide specific services (for example, a scheme to provide cleaning and home maintenance, another to provide assistance with personal care, another for home refitting

and mobility aids, etc.). The schemes were based on a variety of crosscutting principles (e.g., schemes to assist people with particular disabilities, schemes for people whose disabilities had been acquired through accidents at work, schemes for young people).

While the Bureau seemed to be getting the “right story for the wrong reasons,” given the inadequacy of the information system, many clients experienced a serious lack of information about the system as a whole and what they might reasonably request in the way of support. Access to this knowledge was far from universal and needed to be better provided in a more open, integrated and transparent system.

- Clients and their representatives need knowledge that will help them formulate their service requests and manage the use of their service quantum.
- Agencies need knowledge to manage their client mix, their staffing levels and their service provision profiles over time.
- The Bureau needed knowledge to ensure the integrity of the whole system, to plan future provision arrangements and to identify non-performing providers, overlaps and gaps in service provision, inequities emerging in the system and inefficiencies in service provision arrangements.

A KM approach was needed to support individuals making decisions at a level in the system where they are most in touch with the complex, non-routine and even chaotic events that affect the people who suffer illness or incapacity. In trying to improve explicit knowledge capture and transfer, the Bureau’s approach failed to capture essential aspects of the context of that knowledge. It was trying to capture and institutionalise knowledge that resided in separate organisations, those agencies that supplied the client services. The key task of knowledge management is to connect people to each other to enable them to share what expertise and knowledge they have at the moment (Lang, 2001). The proposed system to collect service data would not have achieved that aim. More troublesome, it would have prevented the rich knowledge that existed at the agency level from informing decisions about client care.

Control, in a complex social system, is always difficult. Rarely are control strategies entirely satisfactory. Traditionally, governments (like many other organisations) have adopted a bureaucratic management strategy and, with damage limitation in mind, develop ever more elaborate sets of rules and regulations to limit discretionary decision-making which may result in potentially hard-to-justify decisions made low within the hierarchy. The approach to data collection suggested by the Bureau aimed, consistent with this strategy, to increase centralised control. The conflict here, common to healthcare institutions such as hospitals, is that strategic fit must be achieved: a balance must be found between a professional focus on quality of care, and an administrative/bureaucratic focus on cost efficiencies. The trend seems to have been toward greater and more mechanistic bureaucratic control to meet budgetary goals (Yetton & Johnson, 2001; Pettigrew et al., 1992; Loveridge & Starkey, 1992; Strong & Robinson, 1990).

The weakness of such a system of control in a social situation is the difficulty of predicting (and therefore covering within the set of rules and regulations) all the decisions which might be necessary. It is clear that in many instances associated with the provision of disability services effective decisions require specific but potentially unpredictable case information and must be made promptly. Whereas bureaucratic rule-following and fine-grained data management serve the needs of those organisationally and politically accountable for an efficient system, the people at the care delivery end

require the flexibility of a system that allows them to exercise judgment on their own or others' behalf. "On the ground" rather than "head-office" control (though transparent and auditable) is essential in order to ensure the system meets the needs of those it was designed to serve.

The difficulty of making informed decisions within the system of human service provision was, in our view, the key problem. A resolution of this problem is possible through knowledge management — an approach which can, by effectively supporting distributed but transparent decision-making throughout the system, combine flexibility of action with control and accountability.

## **TOWARD EFFECTIVE DISPERSED DECISION MAKING**

Once we had rejected the option of instituting a more detailed level of data collection and rule enforcement as an effective solution to the perceived problem, we had, in effect, rejected increased centralisation of control. We were, then, drawn to consider whether we could find an accommodation acceptable to all parties through an approach based on a form of managed delegation of responsibility. Such a strategy might be effective if decisions were made by individuals who had the necessary knowledge (including explicit knowledge of the rules and regulations, as well as tacit knowledge of the specific case) and were accountable.

Consistently good decisions require a thorough knowledge of the problem itself and the possibilities for its solution. Decision-makers must be accountable and their decisions must be open to scrutiny. While it is clear that the availability of information low down in the bureaucracy can enable effective decision-making in a highly variable and sensitive social context, two associated aspects, accountability and knowledge collection, deserve some attention.

The Bureau, reasonably, was concerned to minimise the possibility of being required to answer for "bad" decisions. But how great is this danger in practice?

Exposure falls into two categories:

- A single bad decision may be made which has the effect of causing immediate and acute disadvantage to a client.
- A single bad decision, or a series of bad decisions, may be made which results in invalid expenditure.

The first form of exposure can, of course, be minimised by denying the right for such decisions to be made on-the-spot — in essence, through the simple expedient of an overarching "Golden Rule" that the immediate well-being of the client always takes priority. Having applied first-aid, responsibility for a sensitive decision may be passed up the hierarchy.

The second form of exposure is less immediate, more diffuse and, in the current situation very difficult to detect — indeed, it was this exposure which led to the proposed data collection system. This exposure, as the Bureau clearly saw, may be minimised by monitoring behaviour within the system. Such behaviour can only be effectively monitored to the extent that a body of reliable, accessible and analysable data exists. The law of diminishing returns suggests that the analysis undertaken by the Bureau should

be automated where possible and that human intervention within the process should be based on “exceptions.” In essence, one can mine a database seeking patterns and anomalies.

## **BUILDING A KNOWLEDGE SYSTEM**

We recommended the development of a database which would support decision-making by all actors in the system. The design of such a database is, in no sense, conceptually or technically novel. It may readily be built following the principles of Object Oriented or Relational Database design. In this instance we recommended a relational approach based primarily upon the existing systems infrastructure and skills and experience base of the IT Branch of the Bureau. Formally designed databases support both pre-specified and ad-hoc extraction, structuring and analysis suitable to support decision-making by many actors in a broad range of contexts. This would allow the Bureau to break the constraints of the “silo structure” and build a cross-scheme picture of the range of support being provided to one or more individuals and to a (potential) client to identify the range of support services that might be available to him or her.

We sought a solution to collect the necessary data (information, to be accurate, must be placed in context and actionable) while minimising its impact on the work practices of the ultimate care-givers and making the least possible demands on the technological infrastructure. Service delivery data may be captured either directly (at the point of the transaction) or indirectly. Service delivery data was already being collected, though not in a form satisfactory for monitoring by the Bureau.

Monitoring the hours of service provided to each client is central to the satisfactory operation of the HBS. Typically, each care-provider is given a scheduled time sheet, nominating for each visit: client, start and finish time, and duties. At the end of the prescribed period, the time sheet, adjusted from “scheduled” to “actual” is submitted by the care-provider to the agency to form the basis of both pay for the care-giver and adjustment of the clients’ records. We suggested that the time sheets form the basis of data input for the proposed KM system. This meant little or no disruption to existing work practices for HBS. In contrast, there is little intrinsic motivation for accurately recording DARC attendance. Nonetheless, the Bureau already requires accurate recording of attendance. We suggested an approach to reporting, based around a simple attendance register. Capturing register information and submitting it, on a regular basis, to the Bureau in computer-readable form is not a particularly onerous task, especially since it replaces the previous data collection mechanisms.

The mode of data transmission could be via the Internet, by direct telephone connection to the Department’s system, physical transfer of data on floppy disk or by paper report (least satisfactory since the Bureau must then key the data into the system). At that time electronic transmission was problematic because of many agencies’ lack of IT capability or poor regional telecommunications infrastructure. Over time, we expect electronic transmission to become standard.

## CONCLUSIONS

In this chapter, we have considered how a KM-based approach can:

- support the various actors in human services systems by offering appropriate and timely information, which together with guidelines (as opposed to rules) support effective, distributed decision-making
- help to unify the various perspectives from which the actors view human service provision
- allow both decisions and service provision to be monitored centrally, both on an *ad hoc* and on an exception reporting basis, in a timely and effective manner.

The key finding of the study was that the highly diffused and fragmented organisational structure of social service administration was the major impediment to the effective building and sharing of knowledge. Outsourcing and instability added to these difficulties. Many of these impediments were the result of political, administrative and organisational practices which were difficult to overcome. But, what was more significant was that meaningful and important knowledge was not simply reducible to descriptions of service allocation and service provision. The context of service provision is as complex as is the (often long-term) relationship between the service providers and their clients. Consequently, we argued that an effective KM system for this organisational network would manage the informal and tacit knowledge which is both distributed among many stakeholders and highly contextual. This is more effective than a response based on control through structured feedback. In an area where there is such sensitivity and the personal and interpersonal issues are so central to the well-being of the clients, KM initiatives have the potential to be integrative or disruptive, with either positive or negative consequences for vulnerable clients and the organisational network as a whole.

The use of SSM and stakeholder analysis as an investigatory tool proved to be a useful lens in examining this highly complex environment, and we argue it will be appropriate in any knowledge management system, particular those spanning organisational, cultural, and geographical boundaries.

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## ENDNOTES

- <sup>1</sup> The writing for this chapter was conducted while Paul Swatman was employed by the Stuttgart Institute for Management and Technology, Stuttgart, Germany.
- <sup>2</sup> We would like to thank Aashish Joshi, Shashank Jindal and Alpaslan Acka, MBA students at SIMT, for the artwork presented in *Figure 1*.
- <sup>3</sup> All the quotations provided here have been constructed from handwritten notes of one or more team members taken during the interviews. They do not have the accuracy of a verbatim transcription but are correct in both content (what they describe) and in flavour (the speakers' emotive emphasis).