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Australian Social Services Agency Software: Requirements, Current Usage and Opportunities

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Abstract

Social Service agencies use a wide range of software systems to manage caseloads, maintain records, deliver services to clients and for inter-agency communication. Some systems are generic, such as Word or Excel, while some are specialised to the organisation, such as specialised databases for tracking case notes. Some software systems are shared across organisations such as web-based government agency provider sites. We surveyed forty Australian social services agencies to ascertain the range of software currently in use by agencies and their opinions on it, with a view to identifying promising new social services applications. We identified some candidate future systems and interviewed representatives from a selection smaller social services agencies. This resulted in detailed feedback on key issues that must be considered when developing social services agency software and some possible directions for research and development in this area.

Keywords

Social services support software, social services agency software usage, future social services software applications

1. Introduction

We wanted to ascertain the current state of software usage in Australian social services agencies and identify key opportunities for improvement. This was motivated by our experiences working in the social services domain, earlier work developing niche social services software systems, and our prior research on innovative systems in the health IT domain (Khambati et al 2009). We recognised that there are a range of challenges to providing appropriate IT solutions to social services organisations. However it was unclear what the current state of practice is in using software to support social service agencies in Australia, how social service professionals themselves use and feel about the support of their current software solutions, and what key opportunities exist for new software solutions.

To carry out this research we first reviewed a range of existing software systems for social services agencies, identifying current capabilities and features. We then surveyed a wide range of representative agencies, small and large, governmental and non-governmental, in Australia, asking about their current software application capabilities, feature gaps and desired new features. From this we identified a broad range of current social services software features and some new software support scenarios for possible exploration. We interviewed a small number of staff members from a range of agencies to further identify current software usage practices, possible future needs, and reactions to our future software solution scenarios. We identified a number of challenges for social services agencies when deploying software solutions, and some promising areas for further software application research and development to better support agency staff and their clients.

We begin by describing our research methodology and review of existing software systems for social services. We describe our survey of representative social services agency software usage in Australia and some scenarios for future software applications we derived from our survey and existing systems review. We summarise results of our interviews with selected agency staff, and discuss key implications from our review, survey, scenarios and interviews for future social services agency software systems.

2. Methodology

To our knowledge, little attention to date has been paid to the software systems used by social services agencies in Australia. In contrast, considerable research effort has gone into health software and IT systems. There has been some considerable effort into developing social services support applications for specific agency needs. One of the authors has worked in the social services area for small, non-governmental agencies. The other has conducted research into novel Health IT systems and developed niche market social services software systems. We were motivated to explore the state of practice in social services software systems usage in Australia, and to identify areas for future research and development into such systems to improve current practice and better support agency workers and their clients.

We first reviewed the range of commonly used and available software systems for Australian social services agencies. We interpreted “social service agency” very broadly – any organisation providing human services to support clients. We also surveyed systems in the related Health IT domain, which we distinguished from “social services” by the health-centric nature of these systems (both physical and mental health). We identified commercial systems and research prototypes targeted at social services agencies and summarised their current capabilities. We followed this with an on-line survey of social service

agencies, including large governmental to small religious and non-religious social services organisations. We tried to survey a wide range of organisations working in different social services areas.

From our review and survey, we identified a number of current and possible future scenarios of software application usage by social services agencies. This included mobile applications, collaborative applications and knowledge management applications. Some of these were aimed at supporting agency workers and some their clients. We then undertook face-to-face interviews with a small number of agency staff from several different agencies. This was both to more deeply explore their current software usage, get their feedback on our scenarios of possible future software usage, and understand issues in both current and possible future software application usage.

3. Review of Available Social Services Agency Software Systems

In Australia, a number of systems are in use that have been developed both overseas and locally. We conducted a detailed review of available systems in June and July 2010. The systems detailed here have been chosen as a representation of the diversity of products available[1]. Standard features of the systems are the ability to record case notes, generate reports and calendars. Some systems are component based while others are not modifiable. Some systems provide for inter-agency access, or for sub-groups within an agency to share information, while others are exclusive to the agency using them. Some systems serve providers only, others allow client interaction through web access. Other systems serve client needs alone. The cost of the systems varied significantly. We summarise the key features of representative systems below.

3. 1. Internationally Available Systems

Athena Software produces the customisable 'Penelope' Client Information Management Software (Athena Software, 2010). Penelope is web-based with hosting able to be provided via a secure online service or installed on the agency's own server. Penelope provides group or solo practitioners with accounts, wait-listing, reminders and alerts, calendars, staff homepages, report generation, notes and more. PDA and iPhone can be used in connection with this system. It is suitable for small to large agencies. It cannot be synchronised with Outlook or other third party systems for security/confidentiality reasons.

Visionlink provides the Tapestry Software Suite (VisionLink 2010). This is web-based software that focuses on multi-agency partnerships. There is a mix of public access, private space for agencies and collaborative access. The software is modular with different partner agencies being able to access different applications as appropriate for their needs. Records can be accessed by a single agency, shared in part or whole and sent between agencies. Special protection is applied to records of minors and data access and alterations are logged. Visionlink plans future development of scanner and identification technologies to support mass entry, group management and very large scale disaster scenarios.

Curam Software provide a variety of packages for Social Enterprise Management (SEM) (Curam 2010). This provides caseload management through off-the-shelf modules. This includes guiding questions for workers to aid information gathering and calculating welfare entitlements. SEM is intended to help clients take control of their service plans through self-service solutions e.g. filling in forms online prior to appointments, applying for benefits and finding information (Connon 2009).

NetSmart Technologies provide Connected Care. This enables sharing of clinical information inside an agency (NetSmart 2010). The MobileConnect package could be of interest in a social services context. This system enables mobile workers to access information while out of the office, update records and then upload these onto the main system once back at work. This is time efficient as uploading of field notes replaces writing up of notes once back in the office. The ConsumerCare package provides for clients to participate in their treatment plans through communication with providers, ability to comment on their treatment and to manage appointments.

3. 2. Victorian-Tailored Social Services Software

As our study of agencies was conducted in the State of Victoria, we reviewed solutions specifically tailored of developed for Victorian social services agencies, incorporating Victoria-specific legislative requirements. CRISSP was developed for the non-government community services sector by the Victorian Department of Human Services (DHS 2010). It has a range of functions for recording client information, assisting with case management and enabling the reporting of data as required. The system also provides for analysis and planning and provides access to a human services directory. When appropriate, CRISSP is able to notify caseworkers when a client is common to more than one agency and provides contact details of other caseworkers involved with a client while remaining compliant with privacy legislation. CRISSP is a web-based system provided free to eligible organisations and is currently used by 105 agencies across Victoria. CRISSP is accessed via the internet including 3G mobile technology. The software is unable to be customised for a particular agency and takes approximately 2 months to implement for a new agency.

The Victorian Department of Human Services uses myaccount. This enables clients to interact with several agencies, including the Commonwealth Government's Centrelink, Child Support and Medicare agencies, through a single website. Clients registered to this service are able to find information on services as well as manage transactions with the different agencies. There are further plans to upgrade the system so customers will be able to pre-fill all forms by 2013 (Clark 2009).

[1] A detailed report is available from http://tinyurl.com/9ksyzdg

The Ballarat District Nursing and Healthcare System provides the Uniti system (BDNH 2010). This incorporates multiple divisions within the same service i.e. palliative care, aged care, district nursing, day centres. As this is reminiscent of the multi-agency interactions of many social services agencies, the system was of interest to us. Uniti is a client management system that can schedule visits, maintain searchable and secure client records and provides mobile and remote access to records. Rather than being purchased the system is rented to agencies. Icon Global provide Carelink+ Community Care Management and Planning Software (Icon Global 2006). Carelink+ offers a range of client, staff and program planning tools including workload planning, reporting, alerts and reminders, individual permissions to different areas as well as remote connection and secure internet access. Multiple levels of security protect confidentiality. A feature of this software is the ability to plan activities years in advance. Vada Computing specialise in community services software and offer the HACCPAC and MEALPAC packages (Vada 2006). HACCPAC provides for the administrative needs of social services agencies while MEALPAC is specific to meals services. HACCPAC provides for the administrative and recording needs of an agency and can be run as a stand alone or networked system. MEALPAC is specially tailored to provision of meal services.

3. 3. Other Related Software Systems

Many of the tools below are not specifically developed for social services but are or could be adapted for use.

Translation software is useful to people wanting to translate communications they could not otherwise understand. Where there is a language barrier between a provider and client and a translator is not readily available, translation software as part of a portable device could be beneficial, preventing delays in service provision and aiding in ascertaining needs. Accountability software, such as X3watch, helps people who feel they need support to change their use of the internet (The X3Network 2006). 'Accountability partner(s)' are nominated and are notified by email when a user accesses sites they would like to avoid. While X3watch is aimed primarily at those struggling with use of internet pornography, such software could potentially be used in social services to help clients in other areas e.g. gambling addiction. Similar products are Safe Eyes (The X3Network 2010), which extends monitoring to other devices and programs, and Convenant Eyes (Covenant Eyes 2010).

Video conferencing is already used by some agencies in client and/or staff interactions. By employing this technology agencies may reach out to people who are isolated and may have difficulty accessing services through traditional means. Maintaining the human presence in such interactions is important, though some studies suggest that virtual interactions are often just as effective as face-to-face consultations (Parrot and Madoc-Jones 2008). Jacmon et al showed that, combined with face to face interventions as needed, online therapy shows promising results (Jacmon et al 2009).

Various forms of 'E-therapy' are already in use in Australia and elsewhere. Virtual psychiatric clinics provide for diagnosis, treatment and monitoring of patients with mental health difficulties (Stark 2010). Diagnosis is made after answering online questions with the option following to enrol in free treatment programs or online therapy (Klein et al 2010). The virtual clinic being run by the Clinical Research Unit for Anxiety and Depression (CRUfAD) at St Vincent's Hospital, Sydney, might also be applied for social services (CRUfD 2010). Demand for home care services from community nurses and psychosocial caregivers is increasing (Wpif and Langer 2006). Systems such as Telecare monitor patient health from home and alert medical professionals when data inputted raises concerns. This system received positive feedback from clients and doctors and required around one hour of patient training (Celler et al 2003). Similar systems could potentially be employed by agencies monitoring clients in areas such as mental health and rehabilitation, and support for budgeting, parent education and assessments.

iPads are starting to be used in some initiatives around Australia. South Australian companies Youthlink and Enabled Software use the iPad to enhance mental health services to youth (Enabled Solutions 2010). The iPad application is set to replace paper assessment forms using a colourful interface and visual demonstrations. Progress will be able to be visualised through graphs and other information. Centrelink staff anticipate the use of iPads in client interaction in the near future (Taylor 2010).

Family caregivers of clients can have their own support and information needs met through applications such as the Assisting Carers using Telematics Interventions to meet Older person's Needs (ACTION) (Chambers et al 2002). This European project uses technology to provide information, education, communication and increased support for caregivers via their television with a remote control device and video-conferencing. While there were some concerns about content and liability issues, the system was generally received positively by users (Chambers et al 2002). CSIRO and Centrelink formed a five year Human Services Delivery Research Alliance (HSDRA) to develop a client centred, more effective and efficient national service (CSIRO 2009). They aim to develop new standards, architectures, technologies and systems for citizen-centric services with organisational interoperability is intended to improve service delivery (Tindal 2009).

Food pantries have made use of client-interactive software with a system providing custom recipes to clients (Evans 2009). A difficulty for clients, who may be used to more processed foods, can be knowing what to do with unfamiliar food they have been given. Such a system could help encourage clients to make use of new food that would otherwise go to waste and could potentially increase the consumption of healthier options with the resultant benefits.

4. Survey of Social Services Agency Software Usage and Requirements

We wanted to obtain broad, collective feedback from social services workers to identify current software use, potential barriers to new software adoption, and to ascertain any other issues we had not identified in our review of existing systems. We

identified fifty agencies to invite to participate in our on-line survey. We asked a range of questions about software use and key agency tasks currently support or that might be supported by software[2]. Thirty-eight responses to our invitations were received over a two week period. Respondents were invited, on completion of the survey, to contact us if they were interested in participating in a follow-up face-to-face survey. Six agencies volunteered to participate in an interview. A few agencies did not complete the survey online but emailed feedback directly that they thought would be helpful. We note that most respondent's definition of 'software' was quite narrow and limited to programmes that ran on a laptop or desktop computer i.e. not on tablets, smart phones, or using 3G technology.

4. 1. Participating Agencies

A wide range of agencies were invited to participate in the survey. Participation was sought by inviting agencies located by web sites, service type and services listings. Representative agency staff were contacted and invited to participate by email and telephone. We attempted to cover a broad range of agency sizes and type, general services and specialised services, and a representative range of social service areas. The broad agency categories of respondents are represented in Figure 1 (a). Those who answered 'other' came from the fields of migrant and refugee settlement services, hospice and palliative care services, homelessness services, disability services, family violence prevention, HIV and AIDS service, church based pastoral services and multi-service agencies.

A good balance of different sized agencies was achieved. Agencies were grouped as smaller agencies (less than 20 employees), middle sized agencies (20-100 employees) and larger agencies (more than 101 employees), Figure 1 (b). Agencies typically engaged with more than 101 clients at a time though some engaged smaller numbers, Figure 2 (a).

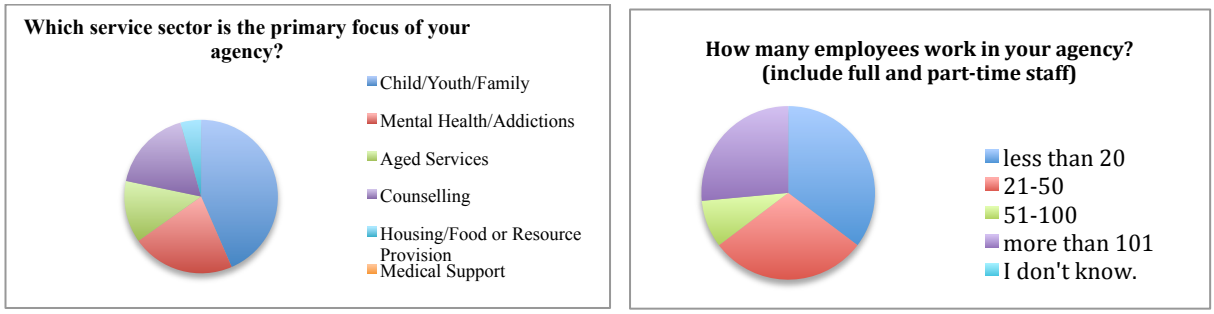

Figure 1. (a) Agency sector and (b) agency size.

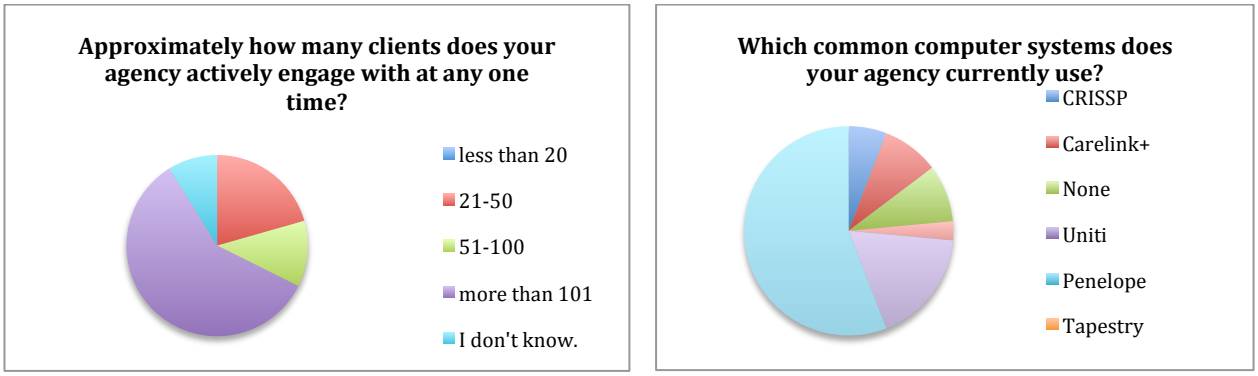

Figure 2. (a) Agency client base and (b) key software usage.

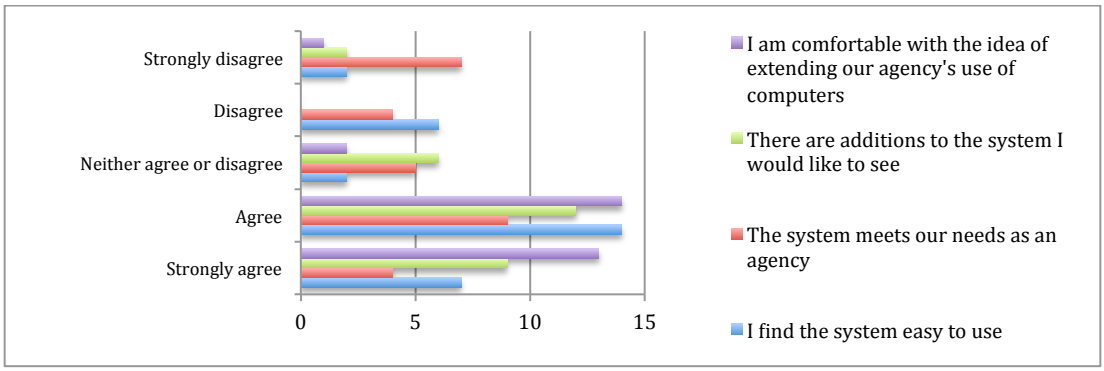

Figure 3. Staff view of agency computer systems.

[2] Approved by Swinburne University of Technology Human Research Ethics Committee # SUHREC Project 2010/168

4. 2. Current Software and Technologies in Use

Agencies used a significant diversity of software, Figure 2 (b). Our survey results showed there was little uniformity in software in use through the different agencies. 16.1% of respondents did not know what system their agencies used. Although we had included as answers what we understood to be the major software systems available to social services, 58.1% of respondents answered that they used another system to those listed. None indicated use of software that did not involve the use of a desktop/laptop i.e. specific use of tablets, smart phones or 3G technology. Participants were asked to rate the software their agency uses, and personal comfort with potentially extending the agencies use of software. The majority of participants found their software easy to use though results were fairly evenly divided over all possible results when asked if the system met the needs of the agency, Figure 3. A significant majority indicated that there were additions they would like to see to the system and almost all were comfortable with the agency extending their use of computer technology.

Storage of case management and client notes was divided fairly equally between computer or paper files. The major reason for notes being stored in paper files was the need to obtain signatures that could not currently be done using computer-only files. 68% of agencies preferred to store notes in paper files rather than on the computer, 32% used computer storage though a few agencies used a mixture of both methods. Reasons given for preferring paper files were difficulties managing agency server space, literacy difficulties among clients making it easier for clients to handwrite, some agencies did not have the technology to use computer consents, it was more cost effective to use paper files than to purchase a new system and then have to take the time to train staff, some processes required a physical client signature and some felt that computer storage was less secure than using a paper file. Several agencies indicated that they did not see any benefit to using a computer system to store notes and consents, some felt access to notes for audits was easier using paper files and some found paper files generally gave easier access to notes – particularly when the computer network was down. Two agencies indicated an interest in moving from a paper based to computer based storage system and were either transitioning to, or seeking funding, to facilitate this.

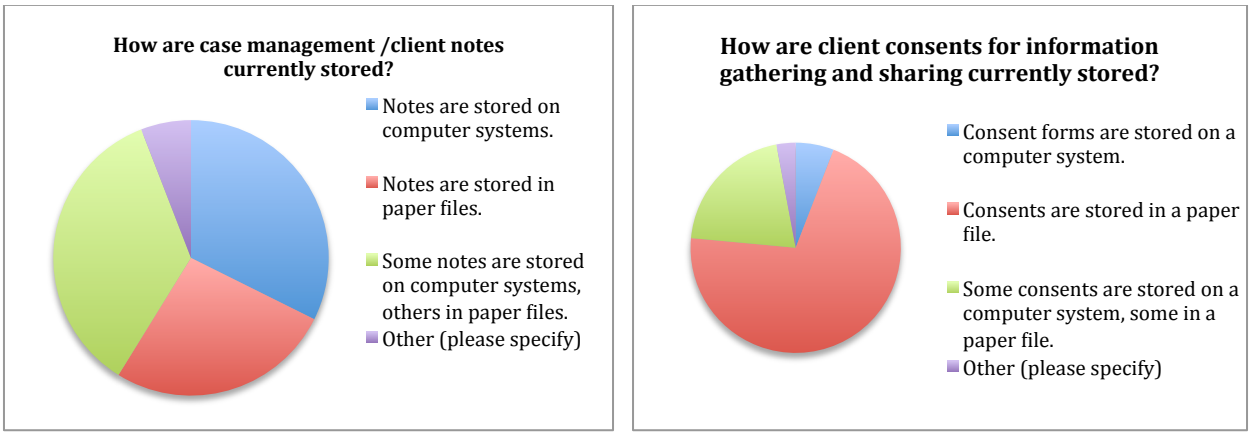

Figure 4. (a) Case notes management and (b) client consents management.

4. 3. Access to Computers and Portable Electronic Devices

Almost all agency staff were able to access a desktop or laptop computer, though in a some agencies computers were shared among workers or staff were unable to access computers, Figure 5. Almost no workers in our survey responses were able to access mobile devices such as iPad, iPhone or 3G enabled laptop. Client access was a challenge recognised by most agencies where a minority of clients have access to a computer and/or internet connection. Approximately half have access to a cellphone. Most clients did not have access to SmartPhone or tablet technologies.

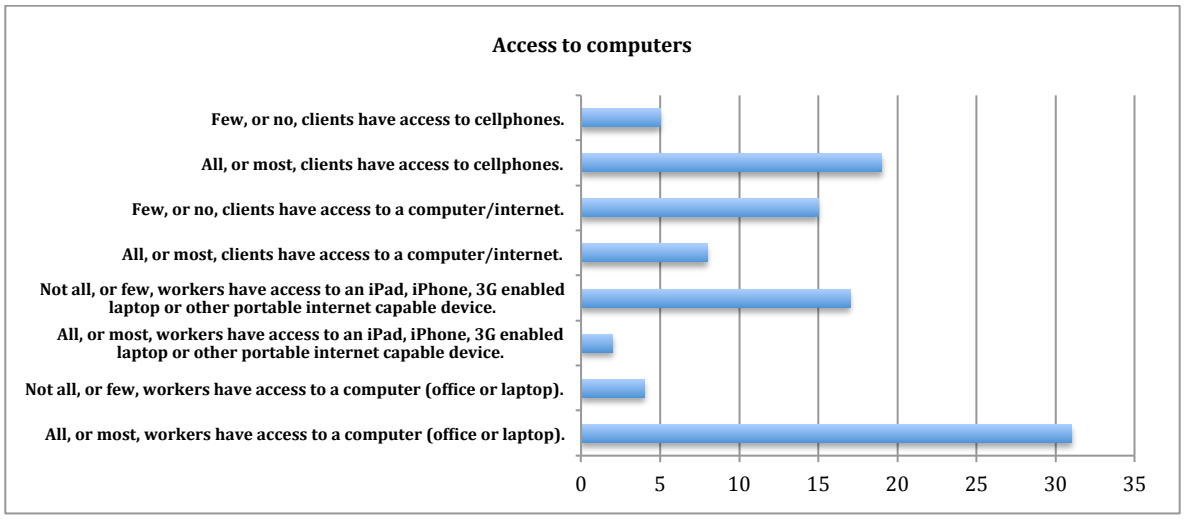

Figure 5. Agency and client access to computers and computer software.

4. 4. Agency use of computers

Surveyed agencies currently use computers for a wide variety of tasks including email, word processing, generating reports, staff calendars/appointment diaries, agency and/or staff websites, billing, referrals, recording case notes, information sharing within the agency, programme outcome measurement and ordering stock. In addition to current uses, agencies indicated an interest in the possibility of using computers for inter-agency information sharing, reminders and alerts for staff and clients e.g. automatic text reminders for appointments, volunteer management and development and for providing an overview of help given by staff collectively to individual clients, Figure 6.

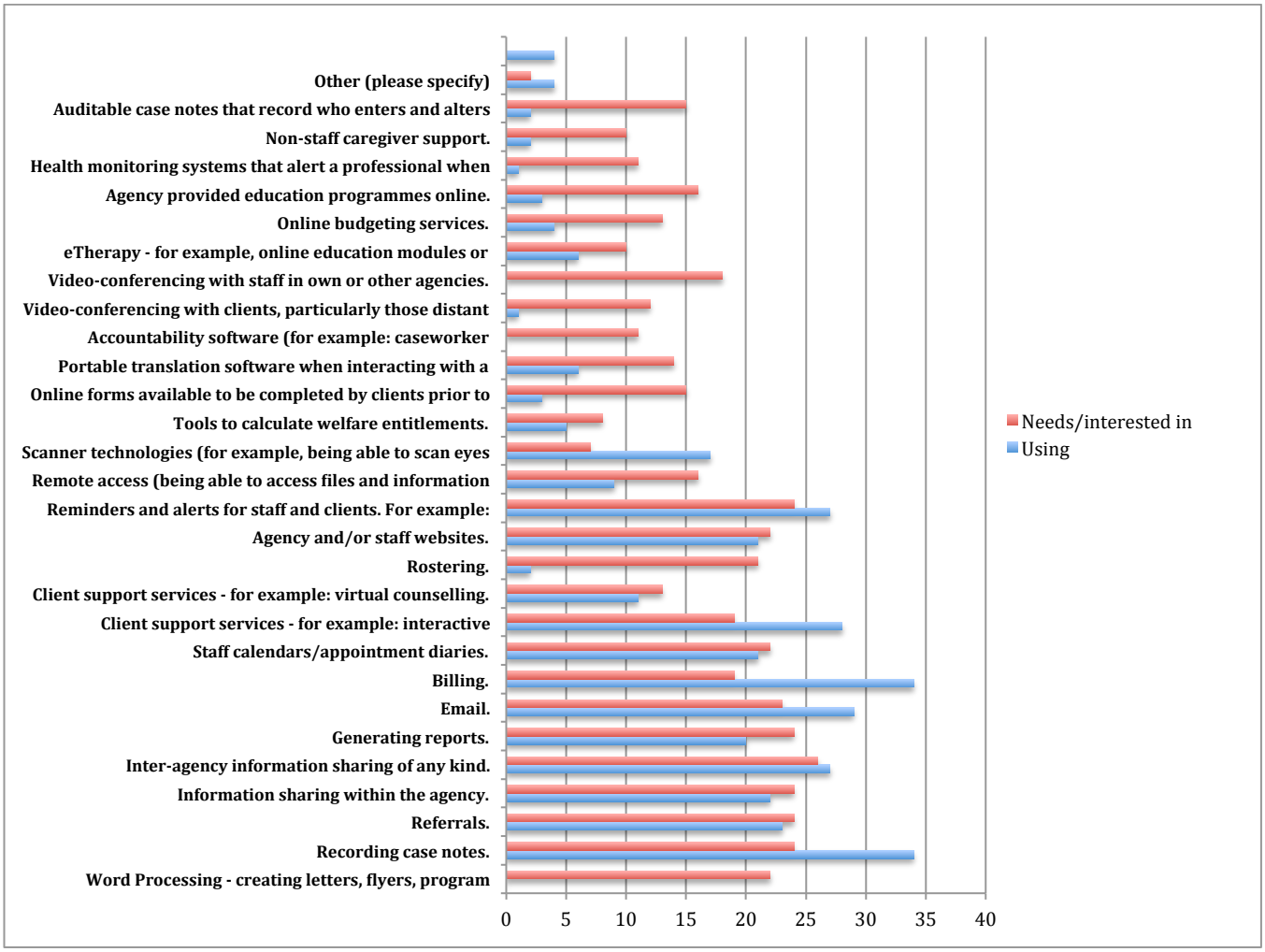

Figure 6. Current and possible future agency software support.

4. 5. Barriers in the Development of Technologies for Social Services Agencies

Participants identified the primary barriers in developing systems for social services agencies as being concerns about overhead costs of the systems, worker and client lack of confidence in using computer technology, and privacy of information concerns, Figure 7. Also of concern were literacy barriers in some client groups, the time that might be required to train staff and/or clients in the use of new systems and lack of client access to computers and the internet. Lower frequency concerns were the safety of vulnerable clients when using remote client services, liability issues connected to the use of such systems and a lack of worker access to computers and the internet. An agency that works with clients with profound intellectual difficulties identified this client group as one that would have particular difficulty engaging with technologies.

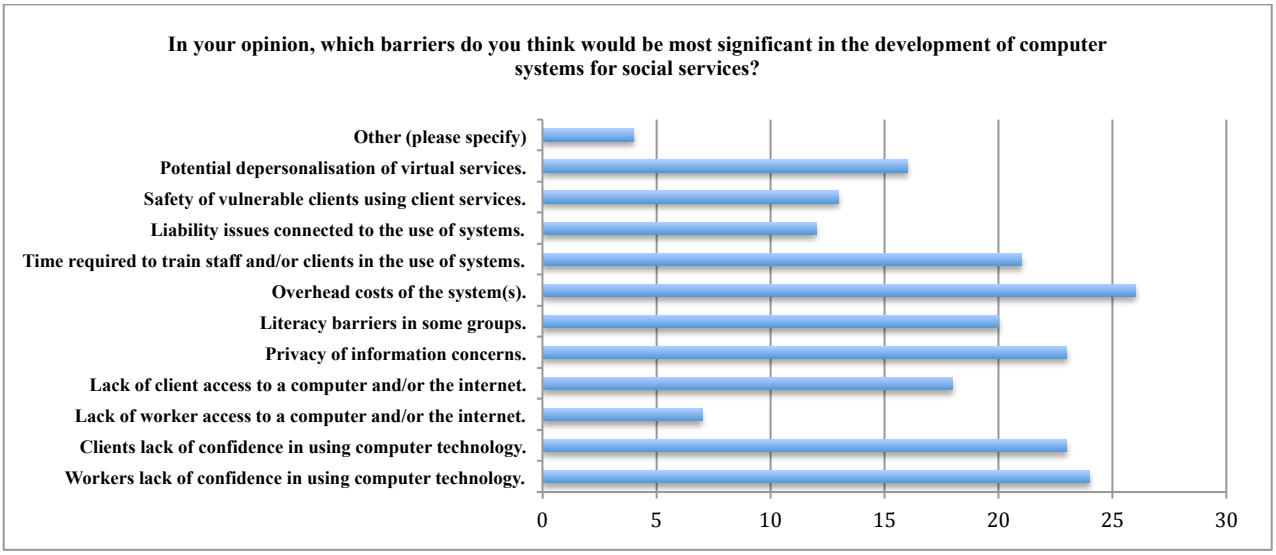

Figure 7. Perceived barriers to future deployment of social services software.

5. Scenarios of Potential Social Services Software Usage

From our survey results and analysis of existing social services agency software systems, we identified some potential areas of new software technology use in the sector. We used these scenarios in our face-to-face interviews with agency representatives to get feedback on both potential usefulness but also potential pitfalls and issues to overcome. We summarise our future social services agency software scenarios below, posing each as an example issue or problem an agency worker might encounter.

1. Translation software: You encounter a new client who does not speak English. No translator is able to be present. The client is distressed and obviously in need of help. Would you be interested in a portable device that would enable you to type in text in English with the device automatically translating what you have typed into the language of your client? The device could also translate from the client to yourself. Do you think such a device would be useful for social services in general? How might it be helpful? Are there any reservations you would have about such a device?

2. Emergency Device: Visiting people in their homes can carry some risks for workers. Imagine that a social worker is visiting a home bound client. During the course of the meeting the client's husband arrives home and becomes agitated and will not let the social worker leave. Using a cell phone is not an option. The worker presses a button on a discrete device worn around his/her neck which notifies the agency or a security company that the worker is in trouble and help arrives to diffuse the situation. Do you think such a device would be helpful? Are there any reservations you would have about such a device?

3. Housing Database: A housing worker is looking for emergency housing for a client who has been evicted. Rather than phoning around known agencies, the worker is able to login to a central database, enter accommodation requirements and bring up a screen of available housing suitable for the client. Do you think such a system would be helpful to social services workers looking for emergency housing? Are there any reservations you would have about such a system?

4. Welfare Entitlements: A client is working variable hours each week which affects the welfare payment they receive each week. Communicating the amount each week takes quite a bit of time and effort for the client. If the client could go online to enter the details for each week it would save a lot of effort. Do you think there is a place for such a system for welfare recipients who are working variable hours? Are there any reservations you would have about such a system?

5. Accountability Devices: For those struggling with addictions and wanting to overcome them, temptations can be everywhere. Take, for example, a gambling addiction. Let's say a client is seeking help to give up gambling and encounters a location where gambling is a focus. While this client is working with support to overcome their gambling, this support system is not available to them in the moment and they are feeling vulnerable. Most people have cell phones today. On this occasion the client entered the venue and a GPS tracker on their cell phone detected their location and sent them a message that supported them to resist the temptation. Or maybe the person is working through issues with alcohol and has entered a liquor store. A GPS tracker sends them a message that supports them to leave without making the purchase. Do you think such a system would be a helpful addition to support clients with such struggles? Are there any reservations you would have about such a system?

6. Multi-agency Meetings: A worker is trying to organise a meeting that involves four different agencies who are all involved with the one client. All the agencies have limited flexibility as they all serve many clients with diverse needs. If all agencies were able to enter available times into a central database and find a common time, this could save considerable time trying to contact everyone and juggle their schedules. How useful do you think such a system would be to social services agencies? Are there any reservations you would have about such a system?

7. Meeting Reminders: A client has difficulty remembering to keep appointments and can be difficult to track down to call through reminders. The agency involved in their care has installed software that keeps track of appointments and at entered

periods e.g. the afternoon before and morning of an appointment, the system automatically sends a text to the client to remind them of the time and day of their appointment. How useful do you think such a system would be for social services agencies? Are there any reservations you would have about such a system?

8. *Interagency Courses*: A worker needs to find a parenting course for a client to participate in. The worker is unable to easily get hold of the person that takes enrolments for the course of choice to find out if places are available. As part of a centralised system, the worker is able to access the database of the agency, or agencies, holding the desired course and can see how many places are available. They are then able to sign the client into the programme immediately. Do you think such a system would be helpful to social services agencies in general? Are there any reservations you would have about such a system?

9. *Caregiver Support:* Being a care-giver for relatives in need of care can be a very demanding job and at times isolating for the person undertaking the care. Sometimes the demands of the care mean that the caregiver struggles to give themselves the self-care needed in such a role e.g. contact and support from friends or others who are caregivers. As an extension of agency networks, networks and support for caregivers could be given via a virtual community such as message boards, email list, etc. This could help reduce the isolation and provide an outlet for those who need one. Do you think such an extension of services, to support caregivers of clients, would be of interest to social services agencies? Are there any reservations you would have about such a system?

10. *Client information support:* A client seeking help with an area, such as parenting, could have access to information on the spot as needed. For example, their toddler is throwing a tantrum and they aren't sure how to deal with it positively. The client could text, or email, a code to a central service that provides an immediate response with a range of suggestions as needed. Do you think such a service could benefit clients of social services agencies?

6. Selected Agency Representative Interviews

From our online agency survey we obtained interest in face-to-face interviews from six diverse social services agencies[3]. To protect their anonymity, we recount only that these are a good mix of representative agencies from the social services sector. One of the researchers met with each agency representative at their premises and conducted a detailed interview. Most interviewees were managers of sections of the agency. Our intention was to explore in more detail particular agency software usage, potential usage, reaction to our possible future usage scenarios and identify and discuss particular issues of software usage. We summarise the results of these interviews below.

6. 1. Current Systems Usage

All surveyed agencies found the standard Microsoft software sufficient for most of their software needs. Their systems had not been chosen for any particular reason other than that it was easy to access, familiar and served their day to day needs. None of the interviewed agencies currently used a system that enabled access by more than agency. There was a degree of caution expressed regarding the ability to do so for privacy reasons and uncertainty where the boundaries of sharing should lie. For agencies to use such a system there would need to be strong reassurance that information was secure and that the lines of what is shared with whom are able to be clearly defined. One interviewee noted Google systems may provide such a platform, though information privacy and integrity needs must be met. One agency was interested in systems to support joint agency finding applications. One agency noted discussions with health agencies to share information access but questioned information privacy issues and how much information can be shared. One interviewee noted that the Privacy Act forbade them sharing much of their client information. One agency "shared" data via phone and letter only.

We asked about confidence of the interviewee and colleagues in using their existing systems. All but one expressed high to very high confidence. All but one expressed that they used their agency computer systems 6-8 hours per day. One noted that they used it >8 hours every day. It is important to remember that there may be a discrepancy between the expressed confidence of the interviewees, predominantly managers, and workers in the field. More than one manager mentioned this and that they observed that a gap in confidence was largely between older and younger workers, younger workers generally having a higher level of confidence and competence with technology. There was an openness to increased computer usage. Two were actively investigating use of iPads and possibly iPhones. Two noted many workers had smart phones, mostly iPhones. All commented that it was important to agencies that any increased use of technology in their work must make the job they do easier and not detract from time available to interact with clients in person. Reassurance on these points would be valuable in encouraging agencies willingness to consider and try new technologies. One manager noted that they personally found increasing use of software annoying, noting that it distracted from face to face time with clients.

We asked about issues around adopting a new software system in their agency. Key requirements for most interviewees included ease of implementation, subsidised cost (for non-governmental organisations), clear and demonstrable outcomes and benefits and simplifying reporting work. Three commented on freeing up administrative time for client interaction and support. One wanted good, independent consultant advice on proposed systems. New tools would be well received on the basis of ease of use, support available to the agency when implementing and using the tool and clear benefits from the use of the tool being

[3] Interview process and instruments approved by Swinburne University of Technology Human Research Ethics Committee # SUHREC Project 2010/235

evident. The cost of introducing tools was also a consideration. Security of information and reliability was the biggest concern among the agencies in adopting new systems. Some agencies would not want to use wireless networks due to security concerns. Client confidentiality, safety and privacy were issues raised by most interviewees relating to new software systems deployment. Reassurance on this point would need to be provided to agencies to increase willingness to consider new technologies. Ease of use of systems was also an important consideration.

6. 2. Client Access

We asked about current and possible future client access to information and software features for clients. None of the interviewed agencies currently provided on-line access for clients to their information records. Two agencies allowed clients to access paper copies of information. Some services were provided online by some agencies. For example, carer applications, some web site information. One agency had an online supports available to caregivers. Another agency was interested in developing such a support system for their clients. A third was planning an interactive information kiosk in their reception area. We inferred from this that interactive tools are of interest for a number of agencies.

There was a mixed response regarding whether clients would be interested in accessing care plans and other services and information. The main concern expressed was difficulty with client access, particularly among low-income clients who did not have access to computers. There was also concern that clients may not have the necessary skill levels with computers if they were able to access the technology. Two interviewees thought their clients would not be interested in increased access to such services. One indicated there may be language and literacy issues with some clients. Security of information was again raised as an important issue. Most saw increased access to information that empowers clients as a positive thing. The main concern expressed was that clients accessing notes and care plans may misinterpret what they access and choose to act on this basis i.e. disengaging from agency involvement. Two interviewees were concerned that there was potential for clients to mis-interpret case notes etc and this may damage the relationship between client and agency worker. One suggested it may be beneficial for clients to follow progress, get reminders for actions and meetings, etc. One commented that anything that empowered clients was a good thing.

6. 3. Feedback on Future System Scenarios

We used our scenarios outlined in the previous section to gauge potential agency interest in a range of new software applications. Feedback on these is summarised in Table 1. For each potential application, we indicate level of relevance/interest (Very, Some, Little, None). Some agencies already have the support with their current systems, or are getting in a planned system.

The ***Translation Software*** concept received a very enthusiastic response from every agency. While there was some minor concern expressed over potential mistranslations it was generally thought that the benefits of such a system would outweigh any negatives. Privacy concerns were raised by one agency and the dilemma regarding whether information and/or conversations should be recorded on the device would need careful consideration. The main issues there are privacy (not recording any information or conversations to ensure privacy) vs. the need of an agency to keep records for audit and accountability processes (should there be a need to revisit what took place in a particular interaction).

Table 1. Potential interest in possible future social services software systems.

Agency	Translation software	Emergency device	Housing Database	Welfare entitlements	Accountability devices	Multi-agency meetings	Meeting reminders	Inter-agency courses	Caregiver support	Client information support
A	Very	Some	Some	Some	Some	Some	Some	Some	Little	Some
B	Very	Have	Very	Some	Little	None	Have	Some	Have	Some
C	Some	Some	Some	Some	None	None	Some	Some	Little	Little
D	Very	Some	Very	None	Some	None	Getting	None	Little	Very
E	Some	Some	Very	Some	Some	Some	Some	Some	Little	Some

The possibility of a ***Housing Database*** was well received. There were significant concerns about the potential for such a database to quickly become out of date if agencies did not put in the effort required to maintain the information. If such a database were developed it may work best if smaller groups of agencies worked together co-operatively rather than attempting a city-wide database. Similarly, the ***Welfare Entitlements*** support scenario was a welcome idea. Responses indicated that a simple system where the client uses a telephone to communicate information (without having to speak to a person), or a system where the welfare service called back the caller when they came to the top of the queue, were suggested as more accessible options. Agencies were receptive to the idea of an easy accessed ***Emergency Device*** for those visiting clients. The main concern was that such a device being visible and that this may indicate a lack of trust to clients and provide a relational barrier.

Agencies were very positive about the potential for such a ***Meeting Reminder*** system. One agency currently uses this kind of tool and one is investigating such support in its updated software systems. Software to support ***Inter-agency Meetings*** was positively received as long as the information could be relied on to be up to date. For some agencies this idea is not relevant as

they run suitable courses within their own agency so there is no need to work in with other agencies in this regard. The interviewed agencies were generally happy with organising such meetings via email or telephone. There were concerns over the reliability of such information and whether personal calendar entries would be easily kept up to date.

While the idea of a ***Client Information Support*** system was considered positive, questions were raised around privacy e.g. would the calls be anonymous and would it be possible for government agencies to be alerted by the use of a system. One agency saw such a system as being useful in providing practical information for clients to access in different languages in short video format e.g. how to use a bank card.

Most agencies were somewhat receptive to the idea of ***Accountability Devices***, whether for web use monitoring or personal monitoring e.g. when client in the community. They saw this as another tool to offer clients support. Some expressed some serious concerns about the privacy aspect of such a tool. The potential for outside detection of a GPS based system and for the system to be 'big-brotherish' were of concern. A web-usage monitoring tool to support clients was more welcome than a GPS phone-based one. There were less privacy concerns with such a system. Security would still need to be assured and a useful suggestion was that recording patterns of behaviour, rather than single incidents, might be more valuable.

One agency already ran a ***Caregiver Support*** online service. For most, clients are the priority rather than caregivers so they would not be interested in supporting such a service other than for their clients. There was more interest in providing a variety of interactive forums for clients e.g.bulletin boards, blogs, chats etc.

7. Discussion

Overall a balanced range of agency types and sizes was obtained for our on-line survey. Agencies generally felt positive about increasing the use of technology in their work. When interpreting the results of the survey it should be considered that the mode of this survey has potentially resulted in a sample that is biased toward workers who are most comfortable with, and more likely to use, technology. It is therefore possible that workers without access to computers, or not competent using software systems, are not represented in the results and their opinions and personal comfort level with technology are not reflected. The results of this survey show the following considerations are foremost when looking to develop new software technologies for social services: worker and client access; cost of implementing new technologies; worker and client confidence with new technologies; and privacy of information and security concerns. These are general problems with adoption and deployment of most computer-based systems in organisations. However, providing appropriate client access to information and services and care in regards to highly sensitive personal and family information must be addressed.

Indeed, from our face-to-face interviews, at the forefront of agency considerations were the importance of privacy and security when it comes to any potential tool they would consider using. Ease of use and appropriate, ongoing support relative to any tools was also an important factor in whether a tool would be considered useful to an agency. It would be important to be clear on the expected benefits of any tool. Agencies would not be keen on any tools that seemed to add another complication (such as reduction in time available for existing work). Tools must be seen to make work easier. Varying degrees of confidence in using technology exist among workers so tools must be simple to use.

The Specific Technologies of most interest was the suggested portable translation device. This was enthusiastically received by each agency, particularly the idea that such a device could use voice recognition. Voice recognition would overcome difficulties with literacy. Some challenges raised by such a device around mis-translation were raised. The idea of an emergency housing database was also well received. The specific challenges of access and up-to-date information were raised by interviewees. A discreet emergency device for worker safety was also well supported. The main issue raised was discretion i.e. that it would not be interpreted negatively by clients. Meeting reminders were well received with two agencies actively using, or investigating, such a tool.

Our other possible social services software suggestions received a mixed response depending on the specific agency. For example, some were not at all interested in the idea of caregiver support services while one already had such services and another was very keen to establish such a service for their clients. The suggestions that carried the most concern were the use of accountability devices. While these were considered positively as another tool to support clients who opted into such a system, the benefits seemed to be outweighed by concern about the security of the system and whether there was the potential for information to be tracked and then used for purposes other than client support. This concern was linked to a general concern about wireless technology on the whole and related security/vulnerability of information concerns.

There are a number of advantages for agencies that are able to employ effective software and technological advances in their work. Among these are promoting smoother handovers of cases (Raptis et al 2009), improved recording of events leading to better accountability practices, transparency with clients which can help build trust in the helping relationship and increased speed of information sharing between organisations enhancing continuity of care (Brankline et al 2009). Services become more accessible for isolated clients who are able to be facilitated to take a more active role in their own progress and care plans. For workers, information held on record is more readily accessible and the ability to upload notes taken during service provision reduces the time needed in the office writing up notes onto either a paper file or computer system.

While there are many advantages potentially provided by different software systems in social services, some important practical and ethical issues also need consideration. Confidentiality, security of information, and the need to comply with privacy legislation, specifically the Health Records Act 2001, the Information Privacy Act 2000 and the Privacy Act 1988

(Commonwealth) are essential. Special consideration is needed for protection of the information of minors and ability to accurately log when and who has entered or altered records. Client right to access of their records and what is able to be accessed or what should be restricted need to be carefully balanced, to protect agency workers and their clients. If clients are able to access information, potential difficulties may arise should they misinterpret information and act on it with adverse effects. Established hesitance among a significant number of social services workers to take up new technologies (Panos and Weaver 2002) must be overcome for successful adoption and deployment of new social services software applications. Continuity of care by different agencies through linked systems, for what can sometimes be a very mobile population, was seen as important. This is similar to the issue of Electronic Health Records in the eHealth domain. Appropriate records of consents for information sharing and recording given by clients need to be managed.Some smaller agencies saw potential reduction in indemnity insurance premiums if a system increases accountability and so reduce the risk of complaints relating to information handling.

For clients, some key considerations include safety for vulnerable clients when using internet systems. While clients generally saw positive benefit in ability to access, and correct, their information, confidentiality and understanding of what happens to their information and who has access to it need to be communicated. Ensuring appropriate informed consent around data collection, management and sharing is essential. Some clients may desire private advocates to be able to access information on their behalf, further necessitating such informed consent is gained and documented. Access to remote service provision is an issue for many clients in the social services domain. Thus consideration must also be given to inequality in the ability of disadvantaged groups, who may be among those who could potentially derive significant benefits from social services systems, to access the internet. Even if such clients were provided with computers and internet connections for the purpose of accessing services, literacy difficulties are often a barrier to the effective utilisation of services.

Where appointments are recorded electronically it is likely that text reminders to clients would be a welcome addition to a system if it increased attendance rates at appointments. It is important that any shifts to internet based client interactions do not serve to depersonalise a service. Personal attendance of clients is important to productive relationships so any service must maintain the human connection to avoid the possibility of isolating clients further or missing observation clues that provide valuable information about the progress of a client.

Social Work is about empowering people to take control of their circumstances and lives, improving the quality of people's lives and helping clients to exercise power in their lives rather than having it exercised over them (Parrot and Madoc-Jones 2008). Any developments in IT related to social services must work to empower clients and aid workers to facilitate this.

8. Summary

We investigated widely available social services software systems and current use of software systems in the Australian and Victorian social services context. We surveyed a diverse range of agencies and identified a range of interesting potential social services software applications. We interviewed several agency managers to get their feedback on existing systems and reaction to the potential new software applications. Promising emerging software support could include portable translation services, information portals for clients, meeting and inter-agency scheduling, housing support and emergency devices for workers. Research needs to be undertaken into potential use of accountability software in the social services area. Our survey should be replicated with a larger set of agencies within Australia and elsewhere. Further detailed interviews would be useful, particularly with large government agency managers and workers. We would like to conduct interviews with social service agency clients and carers to obtain their perspective on future software technology support in the domain.

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