



Australian Government

Department of Health and Ageing

IT Readiness Survey of the Aged Care Sector, 2006

SUMMARY OF FINDINGS

prepared on behalf of the Department of Health & Ageing
by CHIK Services Pty Ltd

CHIK
Services

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GLOSSARY OF TERMS

The following abbreviations and technical terms are used throughout this report.

ABS	Australian Bureau of Statistics
ACAA	Aged Care Association Australia
ACH	Aged Care Home
ACSA	Aged and Community Services Australia
ACT	Australian Capital Territory
AP	Approved Provider
ASGC	Australian Standard Geographical Classification
ASP	An application service provider (ASP) provides a service where all IT information is collected and stored off-site via a broadband Internet connection. IT systems can be supported remotely and the need for complex and expensive IT equipment, on-site IT support and maintenance is reduced.
CACP	Community Aged Care Package
DOHA	Department of Health and Ageing
DON	Director of Nursing
EACH	Extended Aged Care at Home
EACH/D	Extended Aged Care at Home – Dementia
Extranet	An extranet is a private network that allows authorised users to gain access from outside to an organisation's IT systems via the Internet. It can be viewed as part of the organisation's intranet that is extended to others outside the organisation. It can be used to access and share large amounts of information.
GP	General Practitioner
Internet	The Internet is a worldwide, publicly accessible network of interconnected computer networks that transmit data by packet switching using the standard Internet Protocol (IP). It is a "network of networks" that consists of millions of smaller domestic, academic, business, and government networks, which together carry various information and services, such as electronic mail, online chat, file transfer, and the interlinked web pages and other documents of the world wide web.
Interoperability	The term interoperability is used to describe the capability of different programs to exchange data via a common set of business procedures, and to read and write the same file formats and use the same protocols.
Intranet	An Intranet is private network available only within an organisation. Intranets enable an organisation to share information among staff, and works like a private version of the Internet.
IR	Inner Regional
IT	Information Technology
ICT	Information and Communications Technology

Likert Scale	A Likert scale is a type of psychometric response scale often used in questionnaires, and is the most widely used scale in survey research. It uses a bipolar scaling method, measuring either positive or negative response to a statement. Sometimes Likert scales are used in a forced choice method where the middle option of “Neither agree nor disagree” is not available. Likert scales may be subject to distortion from several causes. Respondents may avoid using extreme response categories (central tendency bias); agree with statements as presented (acquiescence bias); or try to portray themselves or their organization in a more favourable light (social desirability bias).
MC	Major City
NSW	New South Wales
NT	Northern Territory
OR	Outer Regional
QLD	Queensland
RCS	Resident Classification Scale
RVR	Remote/Very Remote
SA	South Australia
SCH	Statistical Clearing House
Standard Deviation	The standard deviation is the most common measure of statistical dispersion, measuring how widely spread the values in a data set are. If the data points are close to the mean, then the standard deviation is small. Conversely, if many data points are far from the mean, then the standard deviation is large. If all the data values are equal, then the standard deviation is zero.
SPSS	SPSS (originally, Statistical Package for the Social Sciences) was released in its first version in 1968, and is among the most widely used programs for statistical analysis in social science.
TAS	Tasmania
Telehealth	Telehealth is the delivery of health related services and information via telecommunications technologies. It may be as simple as two health professionals discussing a case over the telephone, or as sophisticated as using satellite technology to broadcast a consultation between providers at facilities in two countries, using videoconferencing equipment or robotic technology.
VIC	Victoria
VPN	A virtual private network (VPN) allows authorised staff to gain secure access to an organisation’s IT systems when they are not on-site, via the Internet. This may be used to access documents stored on their work computer or to gain access to their email.
WA	Western Australia

INTRODUCTION

As countries around the world grapple with issues around health and aged care service safety, quality, cost and access, many are seeking to reform care delivery with the assistance of enabling information and communication technologies.

This document reports on the first survey of residential, community and home-based aged care service providers in Australia, the *IT Readiness of the Aged Care Sector Survey* that was carried out by CHIK Services in 2006 on behalf of the Australian Government Department of Health and Ageing (the Department). The Department last surveyed the Aged Care sector to assess its IT Readiness in 2002. That study was carried out by Albert Research¹ and was limited to residential aged care settings.

The research benefited from the assistance of Aged Care Association Australia (ACAA) and Aged and Community Services Australia (ACSA) in ensuring the survey was well supported.

This report provides a starting point from which the Department and aged care sector stakeholders can gain and disseminate insights into the Australian Aged Care sector’s readiness for IT and to quantify the sector’s capability, knowledge and skills that will enable the sector’s inevitable transformation in coming years.

RESEARCH METHODOLOGY & APPROACH

The study aimed to identify the current level of information technology use within the aged care sector (residential and community) and the sector’s capacity to adopt eBusiness and eHealth initiatives and sought to address the following objectives:

1. Identify the current investment in and level of IT usage across the aged care sector
2. Identify the sector’s capacity to become involved in future IT implementations
3. Identify issues surrounding the use of IT within the sector
4. Collect information regarding the level of awareness for particular activities
5. Identify groupings amongst residential and community aged care services based on their capacity and current ability to utilise IT as part of their day to day activities, their interest and future plans.

The survey tool was designed following targeted consultation with key industry stakeholders.

Testing was carried out with two groups and every effort was taken to ensure the test groups were representative of the total population to be surveyed. Modifications were made between test phases and prior to final approval of the paper-based and online survey tools.

During the testing phase after much discussion regarding the diversity of organisational structures and mechanisms for managing IT across organisations, it was agreed that surveys would be issued to Approved Providers in addition to individual Services. Two options for survey completion were supported: an Approved Provider could complete the survey on behalf of a group of their Services where the use of IT was consistent across the organisation, or an individual Service could complete the survey on their own behalf.

¹ *Results of Research into the Residential Aged Care Industry’s use of Computers and the Internet*, Albert Research Pty Ltd on behalf of the Department of Health and Ageing, July 2002
http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-rescare-racs_itrpt.htm

A range of strategies were used to maximise responses including: direct mailings, promotion via relevant newsletters, endorsement by industry bodies including The Aged Care Association of Australia and Aged Community Services Australia, a survey hotline and two rounds of reminder/thankyou postcards.

5,804 surveys were posted to Approved Providers and Services on 28 April 2006 and were individualised using contact details provided by the Department. The first reminder postcard was sent two weeks after the survey mailing and a second postcard was sent to those yet to respond on 30 June 2006. Data collection ceased on 3 July 2006.

ANALYSIS

Initial analysis was carried out based on the actual responses received (a mix of Approved Providers and individual Services). Following discussion with the Department, follow up with a statistically relevant sampling of grouped responses indicated their deployment of IT was consistent across the organisation. The majority of analysis within this report is therefore provided at the Service level following apportioning of appropriate data.

LEVEL OF RESPONSE

A total of 5804 Surveys were distributed within the Residential and Community Aged Care sectors (4029 to individual Services, 1775 to Approved Providers). Of the 1698 responses received, 1493 were suitable for analysis with the remainder (205 responses) excluded due to duplicated responses or responses that were unable to be matched to a known Service.

Responses suitable for analysis provide a rich and representative data resource and represent 3111 Services or 77% of the individual Services surveyed – an excellent response rate when compared with typical survey response levels of around 30%.

KEY FINDINGS

This is the first survey of its kind across Residential and Community aged care services in Australia.

The results indicate the industry has matured in its use of IT since the 2002 survey. Services are clearly engaged in IT use for administrative purposes and the more advanced leaders are starting to engage IT for clinical purposes.

The level of interest in the survey was significant. Not only was the actual response impressive with 77% of services in the population represented in responses but only two (of approx 50) questions were not answered by 94% or more of the respondents. In general, the quality of responses was excellent.

IT MOTIVATION & IT CAPABILITY

Responses to selected key questions were summarised and scores from 1 to 5 were assigned to each service (residential & community) represented in responses in an effort to identify significant groupings or segmentation based on capability, motivation and level of interest in future plans.

In addition to considering motivation and capability for IT use, the allocated scores were analysed with a combination of motivation and capability to determine indications of overall readiness for the use of IT in:

- Managing the business (ad-hoc through institutionalised use of IT to manage the business);
- Managing client/resident information (including recording and managing client administrative and progressing to clinical information, capable of eBusiness with the Department); and
- The delivery of clinical care (using IT in clinical care interventions & sharing clinical information with other health providers, eg eHealth related activities)

Figure 1 reflects the overall findings for all Services in relation to IT Motivation & Capability

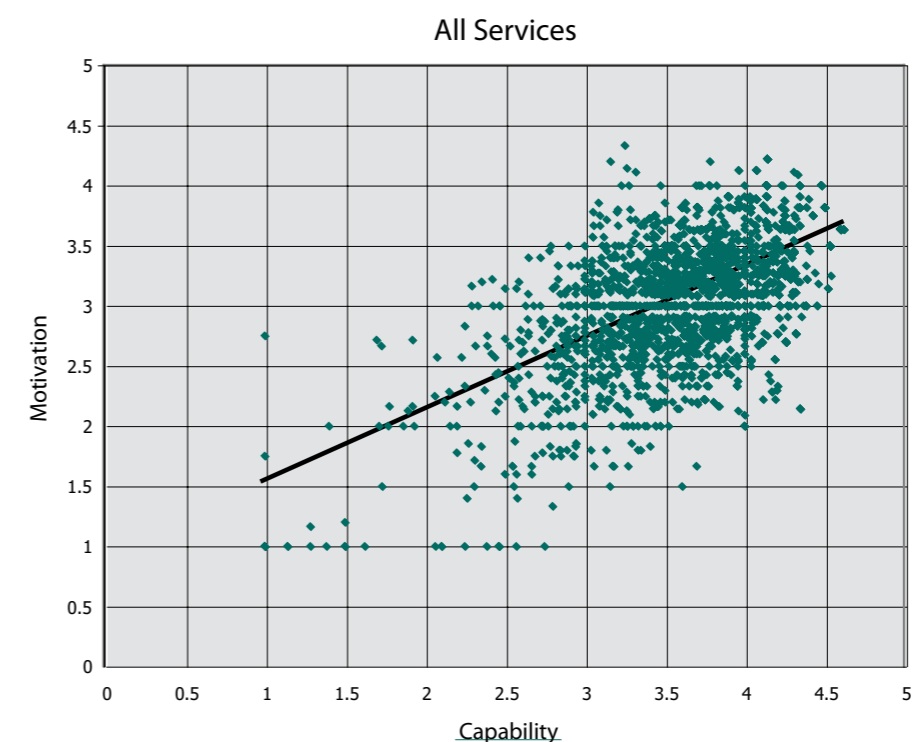
The majority of services represented (91%, n=2815) are motivated in their use of IT with:

- 64% of services focussed on use within the organisation and
- 27% of services that have extended their focus to networking outside their organisation

Only 9% of services are either against IT, indifferent, or show no demonstrated motivation to use IT within their organisation

- The majority of services represented (98%, n=3041) were assessed to have more than an ad-hoc usage of IT with 72.6% (n=2261) managing the business and some level of details regarding the client; and 25% of services demonstrate capability to use IT for internal business management.
- 71% of services demonstrate they have extended their IT usage from business applications to managing resident/client information.
- 32% of services either demonstrate or are approaching capability to use IT to support clinical care delivery.

Figure 1: Segmentation Analysis scatterplot, all Services



IT READINESS

The combination of Motivation and Capability was assessed to determine the IT Readiness of each represented Service for, in particular, the use of eBusiness with the Department and the delivery of clinical care to clients.

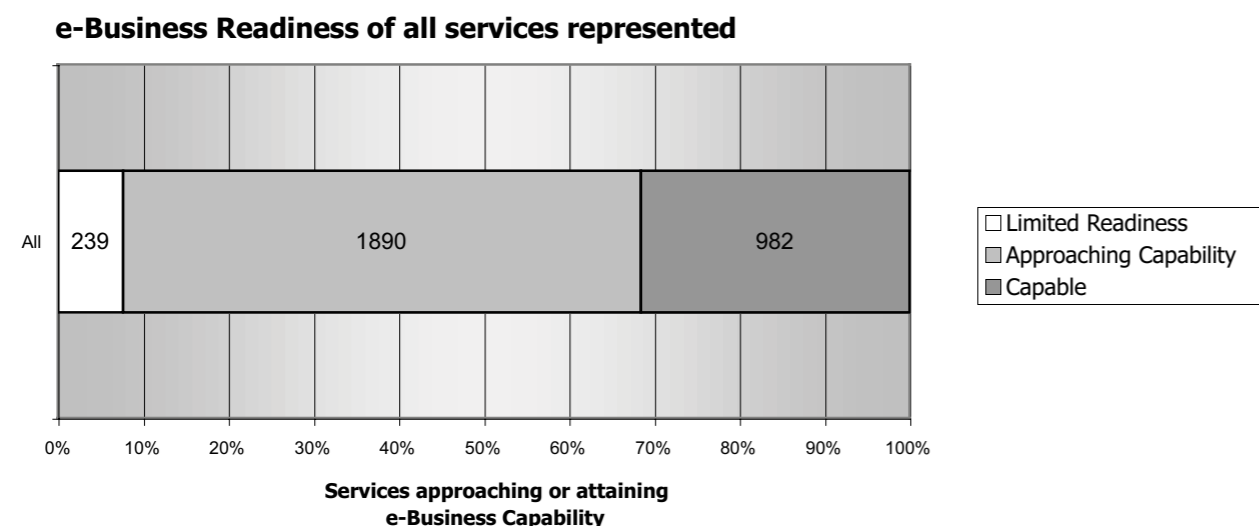
eBUSINESS READINESS

Of the services represented (97%, n=3041), 25% were assessed as capable of using IT to manage the business, while a further 72% demonstrated this capability and expanded it to manage client/resident information. Only 2.5% of services demonstrated little or no IT capability or ad-hoc or minimal usage of IT.

When specifically considering eBusiness Readiness:

- approximately 32% of respondents were assessed as 'eBusiness Capable' with
- a further 62% identified as 'Approaching Capability'. Assisting this group to raise their performance would have a highly beneficial impact on the sector.
- the remaining 8% display limited capability to manage their business or non-clinical resident/client information using IT.

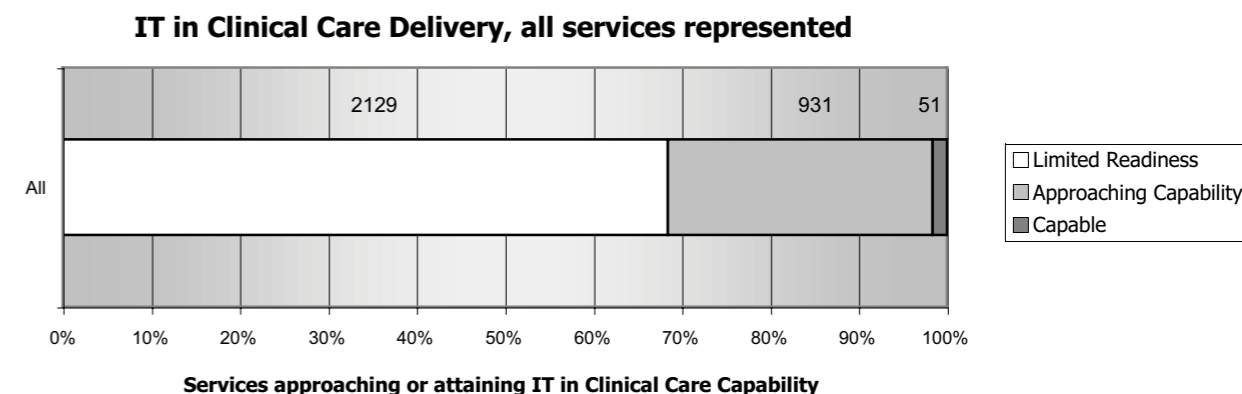
Figure 2: eBusiness Readiness, all services represented



READINESS FOR IT IN CLINICAL CARE DELIVERY

- Although responses to questions about priorities for electronic information sharing indicate growing use of IT to support clinical care delivery, the analysis of all areas of response revealed a different picture with just under 2% of services demonstrating the capability to use IT in clinical care delivery and exchange information with external providers (including health care professionals) with a further 30% approaching this capability. This is reflected in Figure 3.

Figure 3: IT in Clinical Care Delivery, all services represented



Results were filtered by organisation size, location and service type with the picture emerging consistent with the results described above.

RESPONDENT CHARACTERISTICS

When compared with total population figures the survey response proved to be representative in all areas.

It is noted however, that a relatively small number (131 or 4%) of EACH services are overly represented in responses and the majority of these are operated by larger organisations that appear to use IT extensively to manage administration and care delivery. Due to this percentage figures for EACH services appear disproportionately high throughout this report.

Of the 77% (3111) of individual Services represented in the response:

- 73% (2268) provide Residential care services and 27% (843) provide community services - 23% (712) CACP and 4% (131) EACH.
- 31% were owned by Religious groups, 20% Charitable, 18% Community-based, 16% Private incorporated, 8% State government, 4% Local government, 2% Public listed companies, and 0.2% Private non-incorporated
- For the purpose of the survey analysis Services were assigned to 4 size ranges based on the number of allocated places or packages. The profile of the Services represented in the response to the survey was consistent with the overall population. Interestingly, Community services (CACP & EACH) made up 66% of the smallest size range but only 14% of the largest size range. (note: data was not available for 3 services)

Table 1: Services by Size

	Care Type			Total
	Residential	Community		
		CACP	EACH	
Number of services in care group				
Size 1: up to 20 places	209	306	107	622
Size 2: 21 to 40 places	586	183	19	788
Size 3: 41 to 60 places	712	96	5	813
Size 4: 61 or more places	761	124	0	885
Total respondents	2268	709	131	3108
% of services in care group				
Size 1: up to 20 places	9.2%	43.2%	81.7%	20.0%
Size 2: 21 to 40 places	25.8%	25.8%	14.5%	25.4%
Size 3: 41 to 60 places	31.4%	13.5%	3.8%	26.2%
Size 4: 61 or more places	33.6%	17.5%	0.0%	28.5%

- 31% were located in NSW, 26% in Victoria, 20% in Queensland, 9% in South Australia, 8% in Western Australia, 4% in Tasmania, 2% in Northern Territory and 0.5% in ACT.
- Using AGSC analysis of respondent locations, 56% of respondents were located in Major Cities, 28% in Inner Regional, 13% in Outer Regional, 2% in Remote and 2% in Very Remote locations.

ANALYSIS SUMMARY

In the following analyses each comment identifies whether analysis is based on service (disaggregated) or response (original Group/Approved Provider and Service return) data.

PROCESSING CHARACTERISTICS

- Processing claims (100%, 3111 services): Just over half (52%, n=1624) of the Services represented process claims to the Department via 'head office' while a further 35% (n=1092) submit claims from the Service itself.
- Staff (97%, 1428 responses): Organisations included in valid responses (n=1428) employ a total of 205,111 staff, of which approximately 77% are health professionals (medical practitioners, nursing, allied health, care staff and other health professionals).
- Incoming/Outgoing Community referrals (85%, 717 community services): The vast majority of Community services represented manage incoming & outgoing referrals with the help of resident/client management software (RCMS). The more referrals an organisation processes per month, the more likely they are to use resident/client management software (e.g. 63% of services with 1-5 incoming referrals per month use RCMS, whereas 88% of services with more than 100 incoming referrals per month use RCMS).

SNAPSHOT OF CURRENT USAGE

- Computers used (100%, 3111 services): Close to 100% of services represented (99.8%, n=3102 services) have at least one computer in use (only 4 CACP and 1 residential service stated they did not use a computer). A total of 30,690 computers are used across the 3111 services represented.
- IT Processes centralised or decentralised (100%, 3111 services): The majority of community services (72%, n=612 services represented) and residential (70.5%, n=1598) manage IT centrally. Of the remainder, 17% of residential and community services represented manage IT in a fully decentralised manner, with residential more likely to do so. (As multiple responses were accepted figures do not tally to 100%). Size does not appear to affect the choice of business model, but there is a tendency for the more geographically remote services to have decentralised IT processes and procedures.
- Networks (100%, 3111 services): Only 7.7% (n=241) of the 3111 services represented are not networked. Of the 2869 services that are networked, 71% have a local (internal) network and of these, 30% have wireless connection available.
- Internet Connection (97%, 3029 services): ADSL (>512 Kbps) broadband use is consistently high across all care types (70-80%) and across ASGC locations (68-72%) other than Remote/Very Remote locations where ADSL broadband usage fell to 40% and dialup (34%) and satellite (8%) appear to take up the communications load.
- Devices in use (100%, 3111 services): respondents were asked to indicate which devices (multiple responses) are available to them. Digital cameras were most commonly cited (85.6% of all services), followed by CD/DVD-ROM (71.6%). More than half of all services (60.8%) use laptop computers.
- Technologies that support access to organisational information (94%, 2940 services): Over 70% (73.5% n=2940 services) have a website, 62% have an Intranet and 60.5% have a VPN for administrative or IT support use. Around 24% use a VPN for clinical purposes, 22.2% have an extranet and 17.7% use ASP technologies. Of those not using these technologies (26.5%), interest in the use of VPNs for clinical purposes was highest (31.9% n=938 services)
- Operating Systems (94%, 2921 services): Windows XP is by far the most commonly used operating system - selected by 87% (n=2554) of all responding services and consistent across care groups. Operating systems that are between 8-12 years old are also in use but to a lesser extent. Windows 95/98 was selected by 19% (549 services), Windows NT was selected by 9% (257 services) and Windows 3.x was selected by 1%, or 23 predominantly residential services. Technologies such as Citrix to support thin client computing were selected by around 17% (490 services). Note: multiple selections were allowed so responses do not tally to 100%.

APPLICATIONS & PROGRAMS

- Software Applications (99%, 3076 services): the most common types of software applications used by responding services are Word processing and Spreadsheets (selected by 99% of those responding), followed by email (95%), databases (89%) and Organiser/calendar applications (87%). Community care providers appear to have a higher use of Resident/Client Management software (selected by 70% community services (CACP & EACH), compared to 61% of residential services). Medical software was selected by around 30% of those responding. Note: multiple selections were allowed so responses do not tally to 100%.
- Specialised software – Administrative (78%, 2441 services): when asked for details of specific software products used for administrative or management purposes, a total of 258 products were identified from 1610 product references across 920 responses, with the most commonly cited product used by 390 (12.5%) services for a mixture of personnel, financial and resident management functions.
- Specialised software – Clinical (41%, 1283 services) 665 references to products from 447 responses: when details of specific software used for clinical purposes were requested, a total of 148 products were listed (from 665 product references across 447 responses) with the most commonly cited product listed by 250 (8%) of services to support prescribing, medication management and clinical consultation documentation.
- Electronic directories & Electronic referrals systems: 38.2% (n=290) of all community services (CACP & EACH) represented in a response to this question (n=759) confirmed that they use electronic directories and 22% (n=186) of the community services represented in a response (n=743) confirmed that they use electronic referral systems. Details of 46 directory services and 31 referral systems were provided.
- Interoperability (94%, 1403 respondents representing 2924 services): respondents were asked if the computer systems they use share information electronically with other computers within or external to the organisation (that is the systems “talk” to each other), and if so, which systems and which types of organisations were involved. Data quality indicates that it is likely that this question was misinterpreted by many. Given that, approximately 60% (n=2107 services) indicated that their computers share information within the organisation while only 24% (n=999 services) share information externally to the organisation. The types of applications/organisations with which systems exchange information can be categorised as Supplier, Financial/Accounting, the Department and other government agencies, and Clinically-related.
- Clinical uses of IT (100%, 3111 services): the top reasons for using clinical IT systems varied dependent on the type of care delivered by the service. Community services place a higher reliance on IT to manage client care plans, client assessments and clinical documentation than residential care services.

Table 2: Top Clinical uses of IT compared by Care type

Residential Care		Community Care (CACP & EACH)	
%	Clinical Use	%	Clinical Use
67%	Internet Research - health-related information	73%	Client Care Plans
63%	Client Care Plans	69%	Internet Research - health-related information
59%	Store/Access Resident clinical information	66%	Store/Access Resident clinical information
39%	Clinical Documentation	60%	Client Assessment/Needs Analysis
38%	Client Assessment/Needs Analysis	56%	Clinical Documentation

Multiple responses allowed so totals do not equal 100%

- IT use in Clinical intervention: (50%, 1553 services): respondents were asked if their health professionals / IT staff use IT in their interventions with residents/clients (i.e. the assessment, evaluation and monitoring of a residents/clients care needs and the provision of specific medications or treatments). Multiple selections were allowed so responses do not tally to 100%. Only 50% of services are represented in the response (the lowest response for the survey) possibly indicating a lack of clarity in the question itself. Of the 50% services represented, IT is used more for assessment and evaluation purposes (70-80%) than for monitoring or providing medication or treatments.
- Management / Administrative of IT (100%, 3111 services): the top reasons for administration / management use of IT were roughly consistent across all care types. The top selections were Rostering (87%), Reporting (86%), Client billing (84%), Internal communication (83%), Payroll (81%), and Accessing Client/Resident information (80%). Note: multiple selections were allowed so responses do not tally to 100%.
- Resident / Client use of IT (97%, 3024 services): Approximately 43% of responding services provide IT access for their residents or clients. Of these, the most popular purpose is to provide Internet access (33%), to play games or leisure pursuits (30%), for word processing (27%) and for email access (24%). Multiple responses were allowed.

WORKFORCE ACCESS TO IT

- Staff access to IT (97%, 3028 services): Respondents were asked to indicate the percentage range of staff that have access to a computer located in their workplace. Administrative and Management staff have significantly higher levels of computer access and this relationship is consistent when considering all other parameters of access included, such as sole access to a computer (i.e. a computer dedicated for one individual/role), regular use of a computer (i.e. at least 3 times a week), use of work email accounts, and the availability of internet access from a work computer.
- Access for visiting staff (95.6%, 2977 services): just over half the responding services provide computer access for visiting staff such as GPs, agency or other non-staff health care professionals.

IT SUPPORT

- IT support in place (100%, 3111 services): Around 85% of services represented in responses have IT support available and this is consistent across all care types. Of those that do have support services in place, the most common source of support was from external IT service providers (88%, n=2575) followed by centralised support from head office (80%, n=2342) or an on-site computer support staff member (72%, n=2097). Multiple responses were allowed.
- IT Support availability (95%, 2946 services): Most services represented (60.7%, n=1788) have IT support available during normal working business hours (9am-5pm Monday to Friday). Only 8.2% (n=243) of services represented have IT support available 24 hours per day during the week. During the weekend On-call support is available to 30% (n=881) of services represented and 24 hour support is used by 6% of services. Interestingly, services with 24 hour support available (during the week and on the weekends) were quite evenly spread across the smallest to the largest service groupings. IT support availability decreased progressively with increasing remoteness although services in Queensland appear to manage IT support provision more equitably. Multiple responses were allowed.
- IT Support satisfaction level (95%, 2958 services): Seventy-five percent (75%, n=2213) of services represented thought that the IT Support services were either Sufficient or Highly Sufficient. Despite this, many additional comments provided indicate that improvements in this area would be welcomed. Themes include improving call response times and the level of service, catering for local site dynamics (where support is centralised), extending hours when support is provided to cater for clinical system support, improving general staff IT skills to reduce reliance on support and difficulties associated with support for services in rural or remote locations.

IT TRAINING

- IT Training provided (100%, 3111 services): Approximately three quarters (77%, n=2385) of all services represented in responses indicate they provide formal IT training for their staff.
- Time since last IT Training (82%, 2550 services): Respondents were asked when IT training last took place. Around half the services represented for this question (49%, n=1247) had provided training within one month or less of this survey with the average being within 5 months.
- Availability of IT Training (81%, 2552 services): Respondents were asked the type of training that was provided (i.e. general IT skills, with the introduction of new systems or new processes, or as part of induction etc) and whether the training was available to administrative and management staff, and/or health professionals and care staff. Of those responding, Administration and Management staff consistently have higher access (by 10-20 percentage points) than their health professional and carer colleagues and this is consistent across all care types. IT Training is most commonly provided when a new system is introduced (85% for Admin/Management staff, 70% Health professionals/Carers).
- IT Training providers (100%, 3111 services): The most common sources of training are via in-house trainers (34%, n=1057 services) or external trainers (30%, n=935). Software providers were used by 24% (n=751) of services represented in responses.

SECURITY PROCESSES

- IT Security policies & procedures (87%, 2722 services): Respondents were asked what percentage of staff are aware of and trained in IT security policies & procedures. Of those responding, 27% (n=745) stated that all of their staff are aware and trained, however the next most common response (11%, n=289 services) was that none of their staff were. The average response was 45% of staff were aware of and trained in IT security policy & procedures. This picture is consistent across care types.
- Controlling Access to information (95%, 2941 services): Most services represented in responses appear to be using controls to manage access to information effectively – 93% (n=2739) assign staff with passwords, 83% (n=2450) assign staff to a level of access relevant to their role and 81% (n=2941) assign a unique ID for each staff member.
- IT Security features used (97%, 3010 services): The majority (97%, n=2921) of services represented use virus protection software with 93% (n=2795) using automated virus database updates. Almost 95% of services represented in responses perform backups of their data with 75% (n=2269) store these backups off site. Firewalls are in use by 84% (n=2515) of services represented and 71% (n=2150) only allow IT staff to install software. Spyware monitoring is carried out by 52% (n=1572) services represented. Only 35% (n=1067) of services represented encrypt information when transferring it electronically.

INVESTING IN IT

A series of questions were asked to build a picture of the sector's level and perception of IT investments.

- The questions relating to IT budgets and IT decision makers were answered by around 50-60% of total respondents (it is not clear if the lower level of response for these questions reflects the level of access to such information by the respondent)
- IT as a percentage of organisational budget (58%, 869 respondents): 42% (n=365) of respondents to this question indicated that IT represented 1% or less of their organisation's budget, however the average was 3.8% (range 0% to 30%) which is higher than expected. This may be attributed to the one-off payment made available to residential services which could be used in improving IT.
- Who (which role) makes decisions about IT? (55%, 820 respondents): When asked to identify the job title of the most senior person responsible for IT-related decisions (i.e. Chief Executive Officer, Director of Nursing etc) many respondents provided a person's name, thus diminishing the value of the response. Of those responses that did address the question, the most common response was CEO/Owner (40%, n=250), or the Chief Operating Officer/General Manager (23%, n=191).
- Is IT viewed as a cost or an investment? (83%, 1240 respondents representing 2732 services): Approximately three quarters (72%, n=1970) of services represented in a response to this question consider IT to be an investment with the remainder viewing it as a cost.
- Computer replacement policy (94%, 1398 respondents representing 2985 services): When asked if they have a computer replacement policy or plan in place, over half (62.9%, n=1878) of the respondents indicated that they do have a computer replacement policy in place, 29% (n=875) do not and 7.7% were unsure.

- Purchase or lease (90%, 1352 respondents representing 2894 services): Of those responding, the majority (90%, n=2609) purchase computers with the remaining 9.8% leasing their computers.
- Group purchasing (94%, 2914 services): around 40% of community and 50% of residential services represented in responses indicated an interest in finding out more about group purchasing of hardware or infrastructure.

DRIVERS, BARRIERS AND PRIORITIES FOR SHARING INFORMATION ELECTRONICALLY

- Drivers (100%, 3111 services): A list of seven drivers were provided and respondents were asked to indicate which (one or many) drive their current or planned use of IT. The most common responses, each representing 93% of services, were “more efficient for staff” and to “manage and run the business through better information”. The next most common representing around 80% of services were “quality and safety of care” and “reduce costs”. These selections were consistent across residential and community services. Multiple responses were allowed.
- Barriers (100%, 3111 services): When asked to select one or more barriers from a list of twelve, three responses stood out from the rest. Staff skills and willingness to change were each cited by 71% and 66% of services represented, while high costs were cited by 64% of services represented. Around 46% of services represented cited the availability of appropriate software as a barrier. A similar number of services overall (around 40%) indicated that knowing what to do and what to buy were issues, however responses indicate that this is more of an issue for residential services (43% of services represented) than for community services where 30% CACP services and 20-30% EACH services were represented in responses.
- Interest in sharing information electronically (100%, 3111 services): Respondents were asked to indicate their interest by selecting one or more of 11 possible uses of IT to share information. Sharing information with the Department was consistently the top response (around 90% of services for all care groups). Residential services then rated sharing information with ACATs, with GPs and with Pharmacies as their highest priorities. Community service priorities rated sharing information within the organisation and with other aged care providers more highly than their residential care colleagues.

Table 3: Top Priorities for sharing information electronically - by care type

Residential Care		Community Care (CACP & EACH)	
%	Priorities for Sharing Information	%	Priorities for Sharing Information
92%	with the Department	89%	with the Department
86%	with ACATs	83%	with ACATs
85%	with GPs	83%	with other services in organisation
82%	with Pharmacies	74%	with GPs
75%	with other services in organisation	71%	with other Aged care providers
75%	with Hospitals	70%	with Pharmacies
74%	with Suppliers	68%	with Hospitals

Multiple responses allowed so totals do not equal 100%

PLANNING FOR THE FUTURE

- Plan for business process review with IT implementations (95%, 2964 services): Many services (83%, n=2459 responding to this question) indicate that they plan for and subsequently review changes in business processes when implementing IT.
- Strategic planning priorities - Management/admin or Clinical purposes (100%, 3111 services): The majority (79%, n=2476) of services represented consider strategic planning for management/administrative IT as a priority, whilst only 10% view IT planning for clinical purposes as a priority. Non-respondents represented 18-20% of services.

WORKING TOGETHER TO STAY INFORMED

- Communication preferences (90% (1343) of respondents): respondents were asked to indicate how they would like to be kept informed about aged care / health sector IT developments. The top 4 selections were via Peak bodies (66%, n=986), via email (60%, n=904), via an Electronic “IT in Aged Care” newsletter (58%, n=874), or via the Payment Essentials newsletter (57%, n=854).
- Awareness of government initiatives: Respondents were asked to rate their awareness of 5 Government health IT related initiatives using a scale from ‘no awareness’ to ‘high level of awareness and understanding’. In general, awareness of the initiatives was low. Aged Care eBusiness and the Clinical IT in Aged Care project had the highest awareness levels with 38% and 33% of respondents respectively being either ‘aware’ or ‘highly aware’ of these initiatives.
- Follow up authorised by respondent: Over half (53%, n=792) the respondents indicated their interest in being contacted for follow-up research, only about 1% (n=19) did not want to be contacted further and 91% (n=1368) provided contact details for the people who compiled the survey responses in their organisation.
- Additional comments: The survey encouraged respondents to add comments and suggestions as to how the Department and/or industry bodies can maximise the sector’s capacity to take up IT and eHealth initiatives. Of the 1493 respondents, 28% (n=419) provided additional comments that were grouped into 20 themes. The most common comments were a) requests for guidance on IT-related purchases and decisions, and b) requests for funding for software, hardware, support and training.

SUCCESS STORIES

- Respondents were encouraged to provide details of IT developments or projects that support aged care (directly or indirectly) and are working well. Details of 861 projects were provided by 531 respondents and of these 65% (n=346) were happy to be contacted by the Department. Projects submitted were assigned to 10 categories with the most common being a) office automation, administration, financial, HR, rostering (180 instances) and b) clinical care planning / assessment projects (130 instances).

COMPARISONS WITH PREVIOUS STUDIES

In 2002, the Department conducted a survey of residential services that explored IT infrastructure, connectivity, workforce skills and capacity/interest in carrying out business related transactions electronically². It achieved a 52% response rate.

Responses to the 2002 and the current 2006 study were both shown to be representative of the sector at the time the survey was carried out.

Overall, the picture is of a sector that is interested and engaged in the use of IT and is maturing in its equipment, its connectivity, its provision of staff training and in the proportion of services actively using IT to “run the business”.

In 2006 the majority of aged and community care services:

- are using at least one computer: in 2006 only 5 do not, compared with 31 services in 2002
- are connected to the Internet at reasonable speeds: in 2002, 47% used 56Kbs dialup; in 2006 the figure is down to 15%, while 68.8% are connected to ADSL Broadband
- use current operating systems: 87.4% use Windows XP in 2006, compared with 57% using Windows 98 in 2002
- use office productivity tools to run the business.
- provide their staff with IT training: 76.7% now provide formal training, compared with 47% in 2002
- are keen to be kept informed, predominantly via industry associations such as ACAA and ACSA and with information pushed to them via electronic means (email and IT-specific electronic newsletters)

There was a substantial change to provision of IT support: an increase in availability of centralised and dedicated support, and an increase in availability of external support on demand.

A moderate increase (67% up to 79.6%) was noted in the number of services that use IT to manage resident details.

DISCUSSION

This research provides a rich and comprehensive data source and responses represent 77% (3111) Services across the country that are representative of the sector as a whole.

The findings demonstrate significant movement in patterns of IT usage and preparedness for e-Business uptake since the last survey (restricted to residential aged care) was conducted in 2002, with the majority of organisations investing in additional infrastructure, upgrading their PCs and their telecommunications capacity. Only 5 Services (0.2%) do not use computers in their organisation. Usage rates were broadly consistent across all care types, although EACH/D Services (representing a much smaller proportion of services) were always somewhat ahead.

It is no great surprise to find that IT is currently used to support the sector’s immediate priority of managing business aspects of the service. When IT is used or considered of interest for clinical purposes the main focus is on care planning, research via the Internet and accessing/storing client/resident information. Interestingly, fewer than 25% of Services indicate their interest in using IT to manage medications, and in general data capture is quite separate from care provision.

Factors influencing this more cautious approach to IT to support clinical care delivery include the difference in level of risk and investment, change management and staff training requirements and the availability of suitable products (and necessary standards). This is consistent with other health sectors.

While the majority of services have centralised IT processes and procedures, more remote services prefer a decentralised model.

The majority of Services have invested in specialised software to manage internal business processes such as rostering, reporting, client billing, email and payroll. A smaller proportion exchange or provide information externally to support business operations and an emerging trend is the provision of access to IT for residents/clients and their relatives/carers.

It is of some concern that this apparently rapid uptake of management and to a lesser extent, clinical software, appears to be occurring with little understanding of concepts such as interoperability that is particularly important to engender effective information sharing between and within organisations.

In order for existing and future software investments to be most effective it will be particularly important that the Department and Aged Care associations deliver clear and consistent messages to help Services and Approved Providers understand the importance of standards and software compliance in line with the work of the National E-Health Transition Authority³ which was established by the Council of Australian Governments to develop and set standards, and common building blocks that support better ways of electronically collecting and securely exchanging health information.

Figures relating to investment, planning, staff access, training and support services bring the focus sharply back to the main game of ‘business’ or ‘administrative’ use.

Access to mobile communications and data capture devices at point of care is at relatively low levels consistent with other health care settings (such as hospitals) and is reflective of the differences between clinical practice (mobile, team based) and administrative practice (sedentary, often sole responsibility)

Staff skill levels have developed since the last substantive study, and significantly more training is made available for administrative/management staff, with most training sourced from external providers. Services in ‘remote’ or ‘very remote’ locations are less likely to receive formal IT training. Not surprisingly, the larger the service size, the more likely its staff are to receive training.

Overall, IT support reflects the “business” orientation of the sector, with most support available during normal office hours during the week. Although viewed as satisfactory by the majority, IT support is an issue for the more remote services (as availability decreases with increasing remoteness), smaller services and those services owned by state governments. It appears that services in Queensland appear to manage IT support provision more equitably.

Access to and regular use of IT and email is significantly higher for administrative/management staff and the dichotomy of access between administrative/management and clinical/carer staff impacts the effectiveness of electronic communication that is targeted at the clinical workforce. Just over 50% of Services provide computer access to visiting GPs, allied health, agency staff or other ‘non-staff’ health professionals.

Sharing information electronically with the Department and ACATs are clear priorities for Services. While electronic information sharing with GPs, hospitals and pharmacies was of significant interest, it was not considered an immediate priority, a further reflection of the perceived barriers and the sector’s focus on business rather than clinically related IT use.

² Residential Aged Care Industry’s Use of Computers and the Internet (Albert Research, 2002).

³ National E-Health Transition Authority <http://www.nehta.gov.au>

Although the provision of formalised IT training has increased, it is heavily geared towards administrative or management staff and is less likely to be available to the more remote services and for services owned by private companies, local government or community owned services.

Staff awareness of security policies is relatively low and although access and data security controls appear to be in place in many instances, this area warrants more attention as the sector moves towards greater reliance on electronically held information and information sharing.

In relation to drivers and barriers to IT uptake, the main driver is to run the business better with a secondary theme to make the workplace more effective for staff. Consideration of barriers to IT adoption brought forward some new themes for consideration – workforce skills, the associated high cost and managing change in the workplace.

It is clear that IT Motivation and IT Capability are linked. The more motivated an organisation is, the more IT capability it displays. While smaller organisations tend to have the most low-scoring outliers, the picture built up through this analysis is of a sector that is moving forward together. A small number of 'leaders' display clinical capability but the strongest message relates to eBusiness with 31% of services already capable of managing client information in addition to carrying on eBusiness and a further 61% approaching this capability. Inner Regional locations demonstrate the highest proportion of Services that are currently eBusiness capable and less urban locations evidence progressively larger percentages of Services with limited readiness for e-Business.

In general, awareness of government initiatives is not high, with the highest level of awareness related to eBusiness initiatives – this fits with the sector's current focus on using IT to "run the business"

CONCLUSIONS AND RECOMMENDATIONS

Results of this comprehensive and representative survey indicate that the Australian residential and community aged care sector has matured in its use of IT since the last study carried out in 2002 and Services represented in responses clearly view the use of IT for business purposes as a key priority.

The use of IT for clinical purposes does not appear to be an immediate priority, although it is of significant interest as a future direction. In considering the combination of motivation and capability to define readiness, only 51 Services (less than 2%) were identified as using IT in clinical care delivery as compared with 982 Services (31%) that are considered 'e-Business Capable' using IT to manage the business including client administration and care related information and a further 1890 Services (61%) that are considered to be approaching eBusiness readiness.

The level of response elicited by this survey is indicative of a sector that is motivated and is actively engaged or planning to be actively engaged in the use of IT. It is also a strong indicator of the sense of pride respondents have in their achievements to date.

Not only did respondents take the time to complete this survey, around one third also took the time to provide additional comments, 91% of respondents provided their contact details and more than half the respondents (56%) stated they were interested in being contacted to participate in follow-up research.

The strongest message to emerge from extra comments is the need for guidance and leadership related to IT purchases and decisions. This guidance is sought predominantly from Government, from industry peak bodies or independent entities to support the sector's move to the next stage of development.