Technology and Aged Care

Aged Care Workforce Innovation Workshop
Adelaide November 4 2014

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About Global Community Resourcing

- Primary Health and Community Care Innovation Specific
- Australian Located but Globally Engaged
- Research and Development Focused
- International Affiliations and Projects
Assisting Organisations to Digitally Transform

- Service model design and Workforce development
- User Centric and Outcomes driven approach
- Enabling, Assistive and Smart Technologies
- Evidence based approaches
Expectations From the Region

• Participants introductions and Exploring Individual and Organisational Expectations For the Day
What you can expect from today

- **Explore** what the landscape and opportunities are at an international and national level
- At a local area look at what the **evidence and data** is telling us
- **Benchmark** this against local experiences and on the ground intelligence
- Identify **Priorities** for the region
- Agree on an **Action Plan**
National Activities and Agendas
Two Current Australian Experiences

- Aged Care Industry IT Council (ACIITC) work on Technology Road Map for Aged Care

  ACIITC
  Aged Care Industry
  Information Technology Council

- Australian Academy of Technological Sciences and Engineering Enabling and Assistive Technologies

  ATSE
  Australian Academy of Technological Sciences and Engineering (ATSE)
ACIITC
Strategic and advocacy work

- Aged Care Industry IT Council established 2008
- Formed by the two industry Peak bodies Leading Age Services Australia (LASA) and Aged and Community Services Australia (ACSA)
- Intent of providing the industry with a vehicle to consider and debate IT related opportunities and to disseminate the lessons learned from that process to the wider aged care industry
- Focus on harnessing technology to create sustainable aged care services in Australia
Australian Aged Care Industry IT Council - Range of Projects to Date

- ITAC Annual Conferences
- Lobbying and submissions on PCEHR
- PathFinder Project uptake PCEHR
- National CIO Forums
- Systems Architecture Project
- IT Vision for Aged Care Project
- National Community Care Technology Readiness Project
A vision for Technology in Aged Care
ACIITC National Home Care Group National Technology Ready Survey

- National Survey June 2014 and still running
- Collection of key information about the Sectors positioning for uptake of Digital Disruption
- Positioned questions to give key indications about how the sector is currently placed engaging with technology in its
  - operations,
  - business processes and analytics,
  - consumer directed environments
  - enabling and assistive
What the Aged Care Technology Survey is telling us Nationally

- About 75% of the sector is interested in **Digital Disruption**
- But very few Leaders or **Champions** in the area
- **Little Integration** of technologies inside agencies
- Very **low integration** of requirements across sectors (e.g., PCEHR)
- Focus on **Operational** Technologies
- **Long way to go** on the reality of incorporating Consumer Directed Care
- Huge amount of work and support required.

Pathway to Digital Disruption has a long way to go
Focus on Assistive Health Technologies

- One of Four Learned Academies in Australia
- 800 Fellows at top of their areas of endeavour
- See Digital Transformation in health, aged and disability care one of the most promising areas for advancing Australia
- Engaged with aged care and enabling technologies since 2006
Focus on Enabling and Smart Technologies in Aged Care

• First paper in this space in May 2010

• Submissions and advice to parliamentary reviews and inquiries

• Main focus on developing a national agenda on Smart Assistive Technology

• Call for a National Strategy for Technology and Ageing
Recently released an extensive investigation funded by the Australian Research Council

As part of a wider Research Project on the need for interdisciplinary research
Assistive Health Technologies for Independent Living Research

Investigated the potential Assistive Health Technologies have to

- Improve health outcomes and quality of life,
- Reduce health care costs,
- Offer Solutions for independent Living in Aged and Disability Care

Identified the Barriers and Success to uptake
How can Assistive Health Technologies be more disruptive in Australian Aged Care

The ATSE research found:

- A market focus is critical
- Expert Champions are required
- Long term business models are essential
- New interdisciplinary players are required
• Established a National /International Interdisciplinary Assistive Health Technologies Network
• First meeting November
• Exploring Political and Sector Impact Agendas and Action Plan
International Experiences- Digital Transformation in Aged Care
The Whole Systems Demonstrator (WSD) program was established by the UK Department of Health to evaluate how the use of telecare and telehealth technologies can support people with long term health and care needs to live independently.

The project was unrolled to 6,000 patients throughout Kent, Newham and Cornwall, making it the largest randomised control study of its kind in the world.

Used a range of low cost technologies and strategies.
The Showstoppers
The results of the WSD program using telehealthcare were:

- 45% reduction in mortality rates
- 15% reduction in A&E visits
- 20% reduction in emergency admissions
- 14% reduction in elective admissions
- 14% reduction in bed days
- 8% reduction in tariff costs

On the ground 1 to 1 care going to 1 to 700 better quality and more client engagement and satisfaction
Delivering Assistive Living Lifestyles At Scale

DALLAS Transforming Delivery of Self Care and Aged Care in the UK
DALLAS

Delivering Assistive Living Lifestyles At Scale

- Looking beyond traditional aged care models
- Digital Transformation
- 169,000 people engaged
- But not about the technology
- Digital Disruption from the ground up in communities
Transforming Delivery of Self Care and Aged Care in the UK

6 ‘C’s of DALLAS

Choice
Control
Connectedness
Collaboration
Community and contribution
New service models and workforce

Four Projects aimed to test digital disruption in services and a focus on digital inclusion

- Mi Liverpool
- Living it up Scotland
- I Focus
- Year Zero
Liverpool

- More Independence Liverpool
- Insight work about how communities can embrace Assistive Technologies in care, service provision and in self care
- Across the whole community
- Across a range of technologies
- Important work being undertaken about evidence based practice on inclusion of assistive technologies
- A focus on wellness and technology
Resources and activities

Memory suitcases
Borrow a memory suitcase - or find out how to make your own.

When I was little
Activities for grandparents and grandchildren.

Memory walks
Free guided walks around the Museum of Liverpool.

Meet me at the museum
Free events for older people.

Mi Smarthouse
A display at the Museum of Liverpool.
The interactive Mi Smarthouse is open daily to demonstrate a number of devices to the public on how to maintain independence in their own homes.
Living it up Scotland

- Digital disruption across a whole population
- Primary health care all services engaged
- Real digital inclusion Co-Design
- Focus on familiar technologies
- Focus on economic development for Scotland
Living it Up is a digitally, enabled, thriving community of opportunities to support better health, well-being and active lifestyles in Scotland.

It is initially for people over the age of 50 – and will be of particular interest to carers, people living with long term health and care conditions or those that just want to ensure they keep happy, healthy and safe.

Living it Up harnesses familiar technologies to connect people to the right place, at the right time on the device that is right for them.
Living It Up portal
Consumer Co-Design and Engagement

LIVING IT UP
The project, which is being led by NHS 24, has enlisted local communities over a three year period to help in the design and development of ways in which local services can be delivered digitally.

- This portal provides tailored advice on improving and managing health, care and wellbeing.
- This unique technology matches an individual’s needs and interests with professional information, local services, and beneficial activities and events in their community.
Emerging Areas of Assistive and Enabling Technologies

- Digital Disruption of Care and Support
- Here and Now
- Great opportunities for Australian Service Reform
- Increased funding opportunities under CDC and NDIS Arrangements
DALLAS is ALL about greater Consumer Engagement in Community, Self Care and reforming health and care systems via technologies
The Newcastle Ambient Kitchen

Acknowledge our International Collaborator Dr Kevin Doughty from the Centre for Home Useable Technologies at the Universities of York, Newcastle and Coventry for his assistance with the Smart Assistive Technology Slides following

- Fiber optic-based surface sensor:
  - FiberBoard technology
  - Low-resolution camera
  - Context aware chopping board
  - Track class and preparation of fresh food

- RFID:
  - Location track packaged food
1 Lifetime Home (JRF)

1. Parking space capable of widening to 3300mm

2. Distance from the car parking space kept to a minimum

3. Level or gently sloping approach to the Lifetime Home

4. Accessible threshold - covered and lit

5. Width of doors and hall allow wheelchair access

6. Turning circles for wheelchair in

7. Accessible entrance level WC plus opportunity for shower later

8. Living (or family) room at entrance level

9. Identified space for temporary entrance level bed

10. Provision for a future stair lift

11. Walls able to take adaptations

12. Identified space for future house lift to bedroom

13. Easy route for a hoist from bedroom to bathroom

14. Bathroom planned to give side access to WC and bath

15. Low window sills

16. Sockets, controls, etc. at a convenient height
Samsung Smart Home & Appliances

1. Customized Device Control
   - Control an individual or multiple appliances at once with an integrated app.
   - Voice recognition command: “Going Out”

2. Home View
   - Get real-time views of the home via built-in cameras on appliances.

3. Smart Customer Service
   - Get notified in real-time when appliances need to be cleaned or serviced, and receive assistance in after-sales servicing.
Claire Lomas, a paraplegic from Leicestershire in the UK, is making medical history as the world’s first person to use an exoskeleton for daily living around her home. She proved the capability of the ReWalk system by using it to walk a complete marathon and then lighting the Paralympic cauldron in Trafalgar Square. Previously exoskeletons were used exclusively in rehabilitation clinics. Claire can use it independently, even walking up & down stairs.
Cyberdyne’s HAL

Cyberdyne has received CE Marking in Europe to begin clinical trials of its HAL robotic exoskeleton. There are a few hundred HALs used in Japan’s rehab centers and available for lease or to purchase. Cyberdyne has supplied about 12 of the devices to Bergmannsheil, a German hospital group, to use in a rehab study of 100 patients.

HAL has the potential to help patients post stroke or with other debilitating conditions to walk, climb stairs, and perform tasks that their otherwise weak legs would have trouble with.
Prosthetics and Replacement Limbs

The i-LIMB Hand by Touch Bionics - world’s first fully articulating, commercially available bionic hand.

New grip chips, coin-sized Bluetooth devices, that can be stuck to any object to activate a particular grip of the hand when it comes near. e.g. when sitting down in front of the computer, the hand can immediately fold all except one of the fingers to make typing on the keyboard easier.
New Enabling Technologies

Smarter Telecare systems

Coloured Pendant Boots including the “Halo”
New Enabling Technologies

Gaming Platforms

Playstation  Nintendo Wii
New Enabling Technologies

• Telehealth sensor systems
New Enabling Technologies

- Personal wearable cool interfaces
Improving Wearability – Digital Jewellery

- The aesthetic form of wearable technology doesn’t compare with functional performance.
- Cuff is a company looking to reconcile technological prowess with head-turning looks.
- Its newly-launched range of fashion accessories incorporate a discrete wireless device that, when pressed, sends a notification to your chosen contacts to let them know you’re trying to make contact.
Practical Use of Cuff Jewellery
Virtual Presence Technology

3D Displays on TV
- Virtual tour bus
- Virtual “bucket list” fulfilment
The OrCam is a small camera linked to a very powerful wearable computer. It sees what you see and through your finger-pointing understands what information you seek, relaying auditory feedback through a bone conduction earpiece. Using an intuitive user interface, the device can read text, recognize faces, identify objects and places, locate bus numbers and even monitor traffic lights. Read More
State of the Art Robotics

Cody – personal robot
Standards and Quality Industry challenges and opportunities

- Standards and Controls
- European Code of practice
- Soon to be international
- First Site at Newham UK
- Australian Sites soon
Need to Build a Body of Evidence on Use of Technologies
Local Perspectives
Question 22 – We have the right IT capacity to achieve the expected reform changes to support consumer directed care *(within Quality Systems & Processes)*
Question 23 – Our IT systems are integrated across care, human resources and finance (within Quality Systems & Processes)
Question 47 – Our workforce is digitally ready (on-line and internet technology and systems) \((\text{within Learning & Development})\)
ACIITC data

Community Care IT Survey

Findings to date....
111 - *8 from SA with Data Analysed

Total Responses

Date Survey Created: Thursday, June 26, 2014
Analysed Responses SA November 2014
Q2: What is the size of your organisation?

Answered: 106  Skipped: 5

- Small - revenue less than $8 million: 48.11%
- Medium - revenue between $8 million to $30 million: 24.53%
- Large - revenue higher than $30 million: 27.36%
Q5: What services do you provide that are funded by the Australian Government?

Answered: 105   Skipped: 6
Q7: What is the number of Home Care Packages you operate against each level?

Answered: 69    Skipped: 42
Q9: Do you have a Client Services System or Client Database Software system in place?

Answered: 94    Skipped: 17

- Yes: 85.11%
- No: 6.38%
- Planning to introduce one in the future: 8.51%
Q10: Does your Client Services System or Client Database Software system support all your different types of community care services?

Answered: 93    Skipped: 18

- **Yes**: 59.14% (55)
- **No**: 32.26% (30)
- **Not applicable**: 8.60% (8)
Q11: What system are you using?

Answered: 93   Skipped: 18

- Purchased Software: 73.12% (68)
- In house development: 15.05% (14)
- Other: 11.83% (11)
Q13: What technology does home care workers in the field get allocated for work use?

Answered: 53    Skipped: 58
Q14: How do home care workers communicate customer feedback?

Answered: 81    Skipped: 30

- **Telephone in to office**: 82.72%
- **Complete form and deliver to office**: 56.79%
- **Complete form and fax/post to office**: 20.99%
- **Email**: 48.15%
Q15: What technology do care managers/coordinators get allocated for work use?

Answered: 81    Skipped: 30

![Graph showing the allocation of technology for care managers/coordinators.](image-url)

- Mobile: 51.85%
- Smartphone: 54.32%
- Tablet: 30.86%
- Laptop: 70.37%
Q16: How do home care workers in the field receive their rosters?

Answered: 81    Skipped: 30
Q17: How are rosters prepared?
Answered: 85   Skipped: 26
Q18: Do you have any Operational Communications and Systems in place, eg, intranet, extranets, financial, payroll, maintenance, quality etc

Answered: 87  Skipped: 24
Q19: Do you have a financial Software System?

Answered: 85    Skipped: 26

- Yes: 90.59% (77)
- No: 9.41% (8)
Q20: If you answered yes, does it interface with your payroll?

Answered: 86  Skipped: 25

- Yes: 65.12% (56)
- No: 25.58% (22)
- Not applicable: 9.30% (8)
Q21: Does it interface with your client information system?

Answered: 85    Skipped: 26

- Yes: 32.94%
- No: 57.65%
- Not applicable: 9.41%
Q22: Does your service have video conferencing facilities?

Answered: 84    Skipped: 27

- Yes: 53.57% (45)
- No (if no, please skip to question 26): 46.43% (39)
Q24: Do you facilitate video conferencing sessions between clients in their home and with health professionals?

Answered: 64  Skipped: 47
Q26: What type of video conferencing infrastructure do you have in place?

Answered: 35   Skipped: 76
Q27: Do you use Telehealth Systems and remotely monitor your clients vital signs?

Answered: 85    Skipped: 26

- No 80.00% (68)
- Planning to 10.59% (9)
- Yes 9.41% (8)
Q29: Do you assist clients to register for the Personally Controlled Electronic Health Record?

Answered: 84    Skipped: 27

- Yes: 14.29% (12)
- No: 85.71% (72)
Q30: How do you register clients for PCEHR?

Answered: 74    Skipped: 37
Q31: Does your community care software interface with the PCEHR?

Answered: 84    Skipped: 27

- **Yes**: 4.76% (4)
- **Not Applicable**: 33.33% (28)
- **No**: 61.90% (52)
Q32: How do you refer to other community care and health providers?

Answered: 82    Skipped: 29

- Phone: 76.83%
- Fax: 65.85%
- B2B software: 8.54%
Q33: How are individual budgets being formulated?

Answered: 75    Skipped: 36

- Manually on spreadsheet: 64.00%
- Manually on word document: 5.33%
- Through financial system (please specify below): 42.67%
Q35: Which of the below are your focus areas for the coming year?

Answered: 57   Skipped: 54
Q39: Which of the following smart phone technologies do you use?

Answered: 69    Skipped: 42

- Apple: 57.97%
- Samsung/Android: 44.93%
- BYOD: 11.59%
- None: 23.19%
Q43: Which collaboration platform do you use?

Answered: 63   Skipped: 48

- Email/Fax: 84.13%
- On premise SharePoint/Dashboard: 34.92%
- Cloud Dropbox/box/Google Docs: 17.46%
Q44: How do you know your network is secure?

Answered: 53    Skipped: 58

- Trust my employees are doing what they say: 30.19%
- Trust a vendor: 28.30%
- Conduct security audits using external parties: 49.06%
Q49: Are you using data warehousing and mining technologies for your services?
Answered: 45    Skipped: 66
Q50: Do you promote your organisation/services via social media?
Answered: 67  Skipped: 44
Q52: Do you use Enterprise Social Media?

Answered: 52    Skipped: 59

Yes (if yes, please specify)  No

- 9.62% Yes
- 90.38% No
Q54: Do you outsource your IT requirements?

Answered: 63   Skipped: 48

- No: 47.62% (30)
- Yes: 52.38% (33)
Q55: Who does your most senior IT person report to?

Answered: 54    Skipped: 57

[Bar chart showing the distribution of responses to the question, with 57.41% reporting to the CEO, 14.81% to the CFO, and 29.63% to Corporate Services.]
Q56: Do you see IT as a key differentiator for your services?
Answered: 61    Skipped: 50

- Yes: 73.77% (45)
- No: 26.23% (16)
Identifying and Benchmarking the Local Experience
Three Key Tasks

- Identify local organisational digital maturity
- Scope out key organisational or regional challenges
- Investigate what opportunities might arise from the Challenges

Next Steps
Regional Digital Maturity

• Using MIT Digital Maturity Matrix
• Developed from extensive research globally across major companies
• Part of longitudinal study 50 companies 157 Executives
• Reflects where Agencies are placed in respect to digital transformation
Digital Maturity Matrix

Figure 16: Digital maturity matrix

- **FASHIONISTAS**
  - Many advanced digital features (such as social, mobile) in silos
  - No overarching vision
  - Underdeveloped coordination
  - Digital culture may exist in silos

- **DIGIRATI**
  - Strong overarching digital vision
  - Good governance
  - Many digital initiatives generating business value in measurable ways
  - Strong digital culture

- **BEGINNERS**
  - Management skeptical of the business value of advanced digital technologies
  - May carry out some experimentation
  - Immature digital culture

- **CONSERVATIVES**
  - Overarching digital vision exists, but may be underdeveloped
  - Few advanced digital features, though traditional digital capabilities may be mature
  - Strong digital governance across silos
  - Taking active steps to build digital skills and culture
Group Exercise

- Consider where your organisation is on the matrix Group Exercise
- Discussion on regional status
- What are the opportunities this presents
- **What are the top Priority Areas?**
Moving forward
Session End

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