Technology and Aged Care

Aged Care Workforce Innovation Workshop
Central Coast 27 October 2014

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Global Community Resourcing
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

- Australian Academy of Technological Sciences and Engineering Enabling and Assistive Technologies
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
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
Assistive Health Technologies for Independent Living

- **Investigated** information and communications technologies, cognitive science, nanotechnology and biotechnologies and interdisciplinary approaches
- **Researched** the Disruption these technologies are having in aged care and some of the reasons for low take up in the sector
- **Recommendations** for increased uptake and removal of barriers
Barriers to uptake Assistive Health Technologies in Aged Care

- Low integration of technologies
- Lack of incentives and subsidies
- Trials did not have sufficient funding to provide effective sustainable solutions that could be translated to evidence to policy makers and funders
- Lack of Leadership and Competency across sectors and silos
- Lack of Champions to influence policy decisions
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
ATSE Next Steps

- 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.
Digital Disruption in reality:
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
DALLAS
Delivering Assistive Living Lifestyles At Scale

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

Innovate UK
Technology Strategy Board
• 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
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
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
Challenge and Importance of Interoperability

- Focusing on importance of interoperability
- Strategic and Operational view
- Multi platforms
- Working on alliances of Digital World with Health and Care World
User Centred

- Focusing on digital inclusion and connectedness
- Developing User Centred Tools
- Transforming the way services are delivered
- Technology Assessments before Traditional Care Assessments
- Bringing technology, design, media, and health care together
DALLAS is ALL about greater Consumer Engagement in Community, Self Care and reforming health and care systems via technologies.
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
The Newcastle Ambient Kitchen

Acknowledge the work of our International Collaborator Dr Kevin Doughty for the following slides and his work in Smart Assistive Technologies.

- 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
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. Identified space for future house lift to bedroom
8. Living (or family) room at entrance level
9. Identified space for temporary entrance level bed
10. Accessible entrance level WC plus opportunity for shower later
11. Walls able to take adaptations
12. Provision for a future stair lift
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
Philips Smart Home  Bathroom
Samsung Smart Home & Appliances
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 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
Session Break

KEEP CALM
IT'S BREAK TIME
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) *(within Learning & Development)*
ACIITC data

Community Care IT Survey

Findings to date....
111 - *34 from NSW with Central Coast Data Analysed

Total Responses

Date Survey Created: Thursday, June 26, 2014

Analysed Responses Central Coast NSW
October 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
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

- Mobile: 60.38%
- Smartphone: 39.62%
- Tablet: 24.53%
- Laptop: 16.98%
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
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

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<th>Comments</th>
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<tr>
<td>83.91%</td>
<td>6.90%</td>
<td>8.05%</td>
<td>1.15%</td>
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Q19: Do you have a financial Software System?

Answered: 85    Skipped: 26
Q20: If you answered yes, does it interface with your payroll?

Answered: 86  Skipped: 25
Q21: Does it interface with your client information system?

Answered: 85    Skipped: 26
Q22: Does your service have video conferencing facilities?
Answered: 84    Skipped: 27

No (if no, please skip to question 26)
46.43% (39)

Yes
53.57% (45)
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

- Mainly the use of Skype: 54.29%
- A web-based service: 57.14%
- Clearsea: 2.86%
Q27: Do you use Telehealth Systems and remotely monitor your clients' vital signs?

Answered: 85  Skipped: 26
Q29: Do you assist clients to register for the Personally Controlled Electronic Health Record?

Answered: 84    Skipped: 27
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
Q32: How do you refer to other community care and health providers?

Answered: 82    Skipped: 29
Q33: How are individual budgets being formulated?

Answered: 75    Skipped: 36
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

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Q50: Do you promote your organisation/services via social media?

Answered: 67    Skipped: 44

55.22% Yes
44.78% No
Q52: Do you use Enterprise Social Media?

Answered: 52    Skipped: 59

Yes (if yes, please specify) 9.62%
No 90.38%
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

- CEO: 57.41%
- CFO: 14.81%
- Corporate Services: 29.63%
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
• 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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