



**International Comparisons of Technology Deployment in various jurisdictions, including Singapore, United Kingdom, China and New Zealand**

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## Across the world

- Australia – AACQA - Quality Standards for residential and community, disability, ATSI support
- UK - CQC Quality standards for all social sector and health sector environments
- NZ – Health and Disability Services (Safety) Act 2001, Health and Disability Sector Standards 2001
- SG – Enhanced Nursing Home Standards, 2015 Centre-Based Care And Home Care Guidelines to Provide Better Care for Seniors
- China - developing

Same or similar technological advances are required to support health, residential, supported living, home, community, domiciliary care, disability



## Social and Health Support needs

### Australia

- 65 years + : 2017 - 15.3 % pop; 2056 - 21.8 %
- 2017-18 - 215,000 using residential, home or transition care
- At 30/6/17, occupancy for residential aged care 91.8 % - lowest in > 10 yrs; 56% in Residential aged care not-for-profit
- 2016-17 – 767,774 older clients of home support nationally (CHSP and HACC in WA) ; 99,177 older clients of Home Care Packages
- 2016-17 – 232,252 in perm (6% older people); 57,498 respite care (1.5% older people);
- 31/3/18 – ~ 85,000 people in a home care package; 870 approved home care providers
- 2016-17 – 24,314 older clients of Transition Care
- 30 June 2017, there were 3636 operational MPS
- <https://www.gen-agedcaredata.gov.au/Topics/Admissions-into-aged-care>
- <http://www.pc.gov.au/research/ongoing/report-on-government-services/2018/community-services/aged-care-services/rogs-2018-partf-chapter14.pdf>



## Social and Health Support needs

### New Zealand


- Rest home care; Continuing care (hospital); Dementia care; Specialised hospital care (psychogeriatric care)
- ~ 657-666 aged residential care homes in NZ, DHB's manage x 8
- 61% - privately owned; 20% - charitable/religious/welfare; 19% - publicly listed, 1% - 'other types ownership.
- 2017 - ~ **32,000** living in residential aged-care facilities
- Aver. residential care home - 57 beds.
- Aver. age – 84 yrs (aver. Age 75 yrs 2007)
- **723,000 - 65 yrs +** in 2017; **85,200 > 85 yrs**
- Health and Disability Services (Safety) Act 2001, Health and Disability Sector Standards 2001 – certification, contract with DHBs

<https://nzaca.org.nz/policy/pay-equity/key-facts-and-figures/>

<https://www.health.govt.nz/your-health/certified-providers/aged-care>

<https://www.health.govt.nz/our-work/life-stages/health-older-people/long-term-residential-care/residential-care-questions-and-answers>


<https://www.ibisworld.com.au/industry-trends/nz-market-research-reports/health-care-social-assistance/aged-care-residential-services.html>



## Social and Health Support needs

### Singapore

- 2017 - ~460,000 were 65 yrs +
- 2015 – 11.8% pop. Elderly
- > 67 Nursing homes ~ 20,000 residents
- centre-based, home-based care services
- Centre-based capacity - 3,150 places 2015
- Home health providers - about 6,900 places in 2015
- 2015 - 6,200 centre-based care places; 10,000 home care places by 2020



## Social and Health Support needs

### United Kingdom

- > 65 years
  - 2017 – 18.2% of 66 mill UK pop; 2027 – 20.7 %; 2046 – 25%
- 85 yrs
  - 2016 - 1.6 mill > 85 years + (2% pop); mid-2041 - 3.2 mill (4% pop)
  - 2066 - 5.1 million people (7% population)
- CQC audits around:
  - 11,650 residential homes, 4,500 nursing homes, 12,395 care homes
  - 1,335 Community-based services
  - 27,130 services in the home
- Care homes sector
  - £15.9 billion / yr; 410,000 + residents;
  - ~ 5,500 different providers operating 11,300 care homes for the elderly
  - ~ 95% independent sector (for-profit and charitable) – local authorities generally commission care services from independent care providers

## Social and Health Support needs



### United Kingdom

- **2.1 million** people in the UK were estimated to have received some level of informal care in 2014
- **311,730** - 39% people living with dementia > 65 in care homes (residential care or nursing homes)

493,639 - **61%** living in the community, approx 55% in mild stages, 32% moderate, 12% in severe stages

- <https://www.cqc.org.uk/>
- <https://www.dementiastatistics.org/statistics/care-services/>
- <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/november2018>
- <https://www.ageukmobility.co.uk/mobility-news/article/how-old-is-the-uk>
- <https://www.gov.uk/government/publications/care-homes-market-study-summary-of-final-report/care-homes-market-study-summary-of-final-report>
- [http://www.endoflifecare-intelligence.org.uk/data\\_sources/residential\\_and\\_nursing\\_homes](http://www.endoflifecare-intelligence.org.uk/data_sources/residential_and_nursing_homes)

## Social and Health Support needs




### China

- **> 60 yrs: 2015 – 222mill; 248 million** by 2020 (1.4 billion people)
- 6.7 mill aged care beds in China in 2015
- Aver. Life expectancy – 76.3 yrs
- 8 mill health workers, 3.3 mill RNs
- 40 mill elderly disabled or semi-disabled
- 3,000+ HEALTH APPS WERE RELEASED IN 2014–15
  - Ali health - Alibaba



**INTERNATIONAL SYSTEMS**



**Australia**

- Revised 2018 Quality Standards – AACQA monitored - consumer oriented
- MyHealthRecord
- Medicare B2B
- Data security requirements

**New Zealand**

- NZ version of interRAI
- NHI number integration
- Meds integration
- Data security requirements

**Singapore**

- NEHR
- NRIC
- IRMS
- ILTC
- Data security requirements

**United Kingdom**


- Revised 2018 Professional Standards – CQC monitored – consumer oriented
- EHR
- GDPR data security
- NHS developing software compliance standards (Care England Conf 14 Nov '18)

**China**

- Data security requirements standards being developed
- New set of national assessments being considered

**INTERNATIONAL SYSTEMS**

RESIDENTIAL, SUPPORTED, HOME, COMMUNITY, DOMICILIARY



**Medication Management - EMAR**

- Aust
- SG
- China – only commencing
- NZ
- UK

**Patient Information Management Systems**

- Aust
- SG
- China
- NZ
- UK

**Pharmacy systems**

- Aust
- SG
- NZ
- UK

**Rostering / HR**

- Aust
- SG
- China
- NZ
- UK

**Finance / Payroll**

- Aust
- SG
- China
- NZ
- UK

**Catering**

- Aust
- SG
- NZ
- UK


**Benchmarking/Risk management**

- Aust
- UK
- NZ

**Continence Management - wireless**

- Aust
- UK
- NZ

**INTERNATIONAL SYSTEMS**  
RESIDENTIAL, SUPPORTED, HOME, COMMUNITY, DOMICILIARY



**AI Pain detection technology**

- Aust – eg. Pain chek

**Beacons Bluetooth technology linked to clinical systems**

- Australia application only – Leecare

**Voice activated Note taking**

- Australia application only – Leecare

**Family / resident portals to enable access to care and activity information, organisation information, interactive web sites/Apps**

- Aust - many Apps/portals/platforms
- UK

**Exercise Bikes linked to videos of familiar road routes to stimulate memory, reminiscence, prompt language with dementia**

- Norway developed, deployed across Europe eg. Motiview


**Smart room technology – sensors, patterns of movement**

- Aust
- UK

**Command technology – Google Chrome cast, Apple, Alexis**

- Aust
- UK

**INTERNATIONAL SYSTEMS**  
RESIDENTIAL, SUPPORTED, HOME, COMMUNITY, DOMICILIARY



**Clinical monitoring technology**

- Aust
- NZ
- SG
- UK

**E-Learning Management Systems**

- Aust
- NZ
- SG
- UK

**Exercise equipment linked to wireless monitoring stats (eg. HUR)**

- Aust
- NZ
- SG
- UK

**Clinical, Care Planning systems**

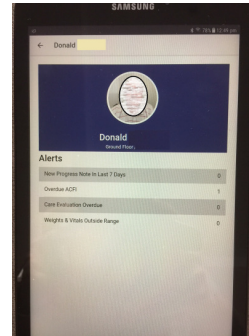
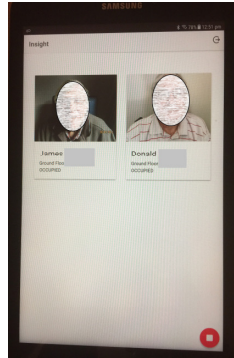
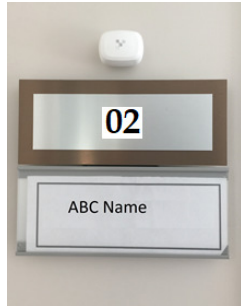
- Aust
- NZ
- SG
- UK
- China

**Robot technology – companions, lifting, movement**

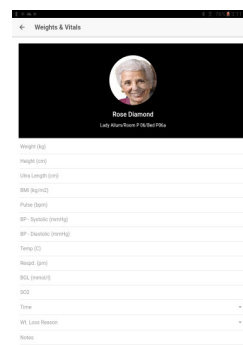
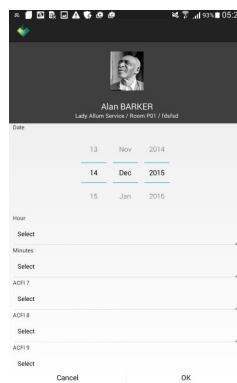
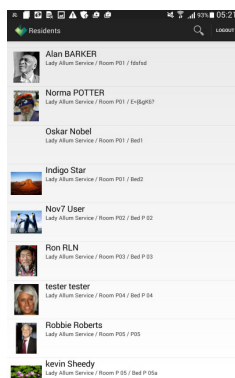
- Not yet widely used anywhere



### Beacons - bluetooth



### Voice activated data completion, note taking








## Small data & Big data

**Values driven technology:**

- If software system developers can't feel the need of the users and those the system is to support, they can't build a relevant product
- Apps focussed on just recording task completion or reports that focus on daily number of progress note entries of different types - who is the master being served? Staff concentrate on recording tasks completed but do they focus on why and whether it's still necessary?
- Review of deaths in aged care show number two cause is 'choking' – this is the data that's important to know



## Small data & Big data

**Values driven technology:**

- Assessment of need includes more than a score of a debility or acuity level. I want to know my mum is going to get the care that matters to her:
  - 2 pillows, one blanket
  - tea with milk only, no tomatoes, garlic toast at night, no mushrooms or fish ever on her plate
  - Her flower coloured walking stick
  - .....
- Build technology that trusts people to get it right - but HELP them get it right



## Small data & Big data

### Values driven technology:

- ✓ Tech needs are very different for different roles
  - Manager: need to understand which homes need help today and what type
  - Directors: Trends, occupancy, staffing
  - Care and support staff: who 'really' is the person I am working with today, what care needs do they have that I need to support, what special experience can I provide for that person today
- ✓ Provide the information to help staff get the care right
- ✓ Regular daily records should be feedback from consumers, not just what staff did – did they like the shower or the food, did they get a choice, was there a variety to select from
- ✓ Use technology to DRIVE a caring culture



## Thank you

