TECHNOLOGY AND THE
FUTURE OF COMMUNITY CARE

**PROJECT REPORT 2012**

# The Community Care 24/7 Scenarios

Alternative futures for community care
in Australia to the year 2030

An Australian Government Initiative

CSIRO

Regional Development Australia SYDNEY

NSW GOVERNMENT Trade & Investment

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## FRAMING QUESTION

What care-enhancing practices will the community care profession in Australia need and how might these be fulfilled by the potential of existing and new technologies?

managed innovation

NEVILLEFREEMANAGENCY

Sponsored by Regional Development Australia Sydney (through funding from the Department of Regional Australia, Local Government, Arts and Sports) and NSW Trade and Investment with CSIRO

Project Leader *Oliver Freeman* Managing Director, The Neville Freeman Agency with *Allan Ryan* Executive Director, Managed Innovation and *Scott Martin* Leader Medical Devices Stream, CSIRO

‘It is a truism to state that strategic planning is concerned with the future. The difficulty however is to generate credible information about the future which will enable the formulation of well-crafted and persuasive strategic plans … Scenario Planning is a way of resolving this issue …’ DR DON MACRAE

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NEVILLEFREEMANAGENCY

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An Australian Government Initiative

TECHNOLOGY AND THE FUTURE OF COMMUNITY CARE

# The Community Care 24/7 Scenarios

## Alternative futures for community care in Australia to the year 2030

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‘Any sufficiently advanced technology is indistinguishable from magic.’ ARTHUR C. CLARKE

# Introduction

In 2011, CSIRO produced a report entitled, ‘The Community Care 24/7 Scenarios: Alternative Futures for Community Care in Australia to the Year 2030’. This report investigated potential scenarios for the year 2030. Subjects covered include workforce development, economy and technology.

Having established four scenarios, CSIRO invited a range of care professionals and technology experts to attend a further workshop in May 2012. The aim was to focus on the type of care, services and technologies which could be envisaged in these four scenarios.

This report includes a copy of the May 2012 workshop agenda; the agenda for the subsequent June 2012 Review Day; the workshop invitation and the list of workshop participants.

The Project Report reflects the outcomes from the workshop and workshop-review.

Scenario-based foresight debates highlighted some of the dynamic tensions that care professionals will need to confront in a fast-changing and turbulent work environment, and six invitees discussed how technology enhanced care could look in 2030 through mapping out the potential for high-speed technology and broadband.

‘Scenario thinking is about the gentle art of reperception.’ PIERRE WACK

# PART

# Step one: Workshop

THURSDAY 10TH MAY 2012 9AM TO 5PM

PREPARING THE NEW TECHNOLOGY AGENDA FOR ENHANCED COMMUNITY CARE

**AGENDA**

MORNING SESSION

| | |
|---|---|
| 8.30 | Registration and Coffee |
| 9.00 | **Welcome**<br>*Bob Germaine (RDA Sydney)*<br>*David Willison (NSW Trade & Investment)*<br>*Scott Martin (CSIRO)* |
| 9.10 | **First Things**<br>*Oliver Freeman*<br>Plan for the day<br>Heresy Corner<br>Your Questions/Issues/Framing Comments |
| 9.30 | **Learning from Past Work**<br>*Scott Martin & Oliver Freeman*<br>Review of The Community Care 24/7 Scenarios for 2030 |
| 10.00 | **Back to the Future**<br>*Oliver Freeman*<br>The Framing Question for today’s session<br>‘What care-enhancing practices will the community care profession in Sydney and |

# ONE
## Project Workplan

throughout Australia need and be able to employ to utilise successfully the potential of high-speed Broadband and other technologies both now and into the future?'

10.15 **Stories from the Technology Frontier**
*Oliver Freeman & Allan Ryan*
So What Could Technology Enhanced Care Look Like in 2030?
Six invitees map out the potential for high-speed Broadband in 2030.
Five minutes each plus five-minute plenary discussion.
*Anne Livingstone, Global Community Resourcing*
*Leif Hanlen, NICTA*
*Cathy Teager, Health Workforce Australia*
*Susan Feldman, Healthy Ageing Research Unit at Monash*
*Sarah Dods, CSIRO*
*George Margelis, Care Innovations, an Intel GE Company*

11.10 Morning Tea

11.30 **Designing the Future**
*Oliver Freeman*

**How to use Zing A**
*Allan Ryan*

**Group Work 1**
*Oliver Freeman, Scott Martin & Allan Ryan*
We form eight colour-coded groups. Each table is assigned one scenario such that we end up with the four scenarios being reviewed at each of two tables.
Tasks for this session:
- Refresh understanding of your scenario. 'This is a world in which … '
- Identify the constraints/freedoms which limit/promote use of technology in your scenario (Zing).
- Identify up to four strategic domains to frame your conversation about new technology applications (Zing).

12.40 Lunch

# Project workplan

AFTERNOON SESSION

1.20 **Where Shall We Act?**
*Oliver Freeman*

**Agreeing the Strategic Domains**
*Oliver Freeman, Scott Martin & Allan Ryan*
All organisations need to identify the strategic domains in which they have the capacity to act. And the healthcare industry needs to use foresight to ensure that its chosen domains are relevant to both the long and short term. To 2030 as well as 2012!

We will decide together what these domains might be and seek to establish about 4-8 of these with their relevant subsets.

**Assigning them to the groups**
*Allan Ryan*
The scenario groups take responsibility for separate domains.

1.45 **Designing the Future**
*Oliver Freeman*

**Group Work 2**
*Oliver Freeman, Scott Martin & Allan Ryan*

**Tasks for this session:**
- Armed with the assigned domains and the contextualized opportunities for exploiting technologies from the morning session, each group works on the strategic options that are relevant to their scenarios.
- The top options are then identified by domain using Zing.

3.00 Afternoon Tea

3.20 **Getting to the 'Now'**
*Oliver Freeman*

**Group Work 3**
*Oliver Freeman, Scott Martin & Allan Ryan*
Tasks for this session:
- The groups reform into the relevant number of strategic domain groups, on instructions from the floor!
- Delegates chose a domain table and share.
- The group then decides which are the most important strategies to be implemented today in preparation for the uncertain futures expressed by the scenarios. Captured on Zing.

4.00 **So What Shall We Do?**
The Strategic Domain Groups Share Their Findings in Plenary

4.50 **Last Things**
*Scott Martin*
**Last Call**
*Allan Ryan*
**Review Day**
*Scott Martin*
**Report**
*Oliver Freeman*

5.00 Close

# Project workplan

## Step two: Review Day

MONDAY 18TH JUNE 2012 10AM TO 1PM

PREPARING THE NEW TECHNOLOGY AGENDA FOR ENHANCED COMMUNITY CARE

**AGENDA**

The purpose of our review session is to mine the draft outcome report from the Workshop in May for its recommendations and to supplement them with future-focused additional material, using the strategic domains from the Workshop as the discussion topics.

## Step three: The Report

THE WORKSHOP INVITATION FROM CSIRO

Join community care professionals, technology experts and other key stakeholders for a one-day workshop to explore, through scenarios foresighting, community care e-technologies for the future.

This workshop builds on the findings of the CSIRO project entitled 'The Community Care 24/7 Scenarios: Alternative Futures for Community Care in Australia to the Year 2030'. Through an extensive scenario mapping process, participants in the CSIRO project workshop developed four potential scenarios for the year 2030, covering a broad array of matters such as workforce development, productivity, economy, family dynamics, transport and technology. For a copy of this Report: www.futureshouse.com/downloads/community.pdf

Having established the four scenarios in the above mentioned project, this event will focus on what type of care, services and technologies could be envisaged in the four scenarios. Unlike the previous workshop, participants will be a blend of care professionals and technology experts.

**When and where?**
**Thursday 10th May 2012**
**9am to 5pm**
**NSW Trade and Investment**
**Level 47, MLC Centre,**
**Martin Place, Sydney**

The event is by invitation: please let me know if you would like to recommend a substitute or suggest we extend an invitation to someone in your network.

Dr Scott Martin,
Sydney 22nd March 2012

# Project workplan

## WORKSHOP PARTICIPANTS

The 55 participants were a blend of care professionals and technology experts with wide ranging expertise. Some also attended the follow-up Review Day in June (denoted below with 'R'), in order to mine for recommendations and to add future-focused material.

| | |
|---|---|
| **Therese O'Dwyer** | Regional Development Australia, Sydney |
| **Rachel Sieff** | Senior Manager, ICT NSW Trade & Investment |
| **James Abbott** | ICT Project Manager, HammondCare |
| **Tal Shany** | Researcher, University of NSW |
| **Branko Celler** | Chief Scientist, ICT CSIRO |
| **Ron Johnston** | Professor, Australian Centre for Innovation |
| **George Margelis** | General Manager (Australia) Care Innovations (GE+Intel) ('R') |
| **Irena Liddell** | Executive Officer, Northside Community Forum |
| **Susan Scowcroft** | Executive Director, Community Services & Health Industry Training Advisory Board |
| **Cathy Teager** | Program Manager, Health Workforce Australia |
| **Sarah Dods** | Theme Leader, Health Services CSIRO |
| **Greg Simpson** | Deputy Chief Industry, CSIRO |
| **Dana Bradford** | Research Scientist, Science into Society Group CSIRO |
| **Charles Lindall** | Business Development Manager, CSIRO |
| **Ilija Sutalo** | Research Group Leader, CSIRO |
| **Bernice Daher** | Executive Officer, Just Better Care Australia |
| **Julie Collareda** | Manager, Innovation & Technology Enhanced Learning TAFE South Western Sydney Institute |
| **Robert Samuel** | Executive Director, Consult Point |
| **John Picot** | Chief Executive Officer, Consult Point |
| **Mark Jaggers** | Executive Vice President, Simavita Pty Ltd |
| **Fabian Lim** | Research Associate, Medical Device Partnering Program Flinders University |
| **Michelle Mars** | Research Manager, Medical Technology Association of Australia (MTAA) ('R') |
| **Leif Hanlen** | Director Health, National ICT Australia (NICTA) ('R') |
| **James McCauley** | Head of Biomedical Engineering, Children's Hospital at Westmead |
| **Odette Waanders** | Chief Executive Officer, Palliative Care Victoria |
| **Peter Samsa** | Research Fellow, (Community Care) Centre for Health Service Development, University of Wollongong |
| **Susan Feldman** | Director Healthy Ageing Research Unit, Monash University |

# Project workplan

WORKSHOP PARTICIPANTS

| | |
|---|---|
| **Phil Davies** | Professor of Health Systems and Policy, School of Population Health, University of Queensland |
| **Fergus Nelson** | Franchise Owner, Just Better Care Australia |
| **Rebecca Ladd** | Chief Executive Officer, Community Care Northern Beaches |
| **Monique Jack** | Access + Inclusion Consultant, funktion |
| **Nicole Hornsby** | Manager Aged Care – Program Development & Education, Baptcare |
| **Trish Noakes** | Director, Just Better Care Australia |
| **Eliza Pross** | Director Strategy, Community Care Northern Beaches |
| **Neil Temperley** | Small to Medium Enterprise Liaison, NSW National ICT Australia (NICTA) |
| **Bob Germaine** | Executive Officer, Regional Development Australia, Sydney |
| **Mark Wigley** | Project Development Manager, Regional Development Australia, Sydney ('R') |
| **Anne Livingstone** | Research & Development Manager, Global Community Resourcing Pty Ltd |
| **Bronwyn Scott** | Manager Disability Support Services, NSW Health (Enable NSW) |
| **Lyn-Sharon Nash** | Health Outcomes Manager, Medtronic, Inc |
| **Michael Bramwell** | General Manager, Melbourne City Mission |
| **Narelle Kennedy** | Regional Development Australia, Sydney |
| **David Thompson** | Manager IT Strategy & Business Transformation, Baptcare |
| **Alanna Cresp** | Policy Officer, Enabling Technologies Policy Section DIISRTE |
| **Kevin Zammitt** | Strategic Health Consultant, Horizon Healthcare Solutions |
| **Ross Baker** | Owner, Baker Strategic |
| **Glen Maberly** | Director, Centre for Health Innovation & Partnership, SWAHS |
| **Dr Alistair McEwan** | Senior Lecturer in Computer Engineering, The University of Sydney |
| **Tracey Cummings** | Regional Development Australia, Sydney |
| **Andrew Block** | Head Southern Health, (Dandenong Hospital) |
| **Tonina Hore** | Clinical Operations Manager, Southern Health (Dandenong Hospital) |
| **Patricia Jenkins** | Policy & Research, Community Services & Health Industry Skills Council |
| **Tom Armitage** | Demonstrations Operative, NBN Co. |
| **Mafhuz Matin** | IT Systems Manager, The Salvation Army |
| **David Willison** | Manager, Investment & Export Services NSW Trade & Investment |

Only follow-up Review Day

| | |
|---|---|
| **Kyle Blay** | CSIRO |
| **Melissa Webster** | CSIRO |

‘We need to conceptualise an organisation as a system of loops in a network of relationships, both internal and external, within which (we) can influence the system.’ GREGORY BATESON

# PART

## Searching for points of difference

This Report reflects the outcomes from both a workshop and workshop-review that built on The Community Care 24/7 Scenarios created in 2011. For more information on the formation of these scenarios of imagined futures refer to the 2011 report.[1] For an overview see the following table:

**Overview of The Community Care 24/7 Scenarios for 2030 (The Four Scenarios)**

| | The Day After Tomorrow | Local Hero | Independence Day | Silence of the Lambs |
|---|---|---|---|---|
| Mood | survival | optimistic | optimistic | 1984 meets the neocons! |
| Present day link | discontinuous | evolutionary | evolutionary | discontinuous |
| Impact | eclectic | niche | eclectic | Polarising/ patronising |
| Change epicentre | global | local | global | national |

1. http://futureshouse.com/downloads/community.pdf

# TWO

# Headline Findings

We have taken pains to do justice to the conversations and to show readers the relevant concerns and conclusions reached by participants in the process.

The 'a-ha' moment that is often reached in scenario-based foresight is not always about something new but can also be about connecting up the 'known' dots. Lining up the future of community care with the future of transport, for example, brings together known sectors and asks us to look at them from a new viewpoint, as does the ethics of biotechnology. In addition, resilience is not only about adapting organisations to meet the demands of a turbulent external environment; it is also about re-inventing organisations to become leaders in systemic intervention hoping to change the environments in which they operate.

The May 2012 workshop generated future-focused debates about some of the dynamic tensions that care professionals will need to confront in such a turbulent and fast-changing working environment. Some of the key issues were taken up by the Review Day meeting and we have used the ideas generated to provide readers with ideas that have the potential to build resilience and transform the community care profession in Australia.

This summary, we stress, is not necessarily the view of all the delegates at the meetings but we hope that it will stimulate the strategic conversation that delegates instigated and that beckons all community care professionals in Australia into the future.

Our summary focuses on the dynamic tensions that we believe are here now or will be centre-stage in the future.

## 1. MONEY: TECHNOLOGY DRIVEN PRODUCTIVITY INCREASES VS. INEXORABLY RISING DEMAND

We live in an economy where rises in real-per-capita costs of healthcare swamp the productivity gains that new technology delivers. This phenomenon is not just about the cost of an ageing community –the impact is visible in all age groups. During the period that our scenarios have considered, health spending overall is likely to increase by over 50%. Consequently, expenditure on technology despite its potential impact on cost reduction will tend to be viewed as just another cost for a market that is struggling to achieve sustainability.

This economic reality promotes deficit models for assessing community care as opposed to models that emphasise appreciation and values.

# Headline Findings

## 2. CLIENT ENGAGEMENT: TECHNOLOGY VS. HUMAN TOUCH

In 2030 babies born in 2012 will be in their late teens and the 'average' delegate at our meetings approaching seventy. Today's Gen Y and the Millennials have a significant and growing trust that technology will give the right answers – a trend we expect their children will confirm. The more sceptical Gen X and Baby Boomers – the current cohort populating an increasingly ageing society – are less confident, and see how technology has the potential for 'dumbing us down' and weakening the role of interpersonal skills and community.

We might want to argue that this tension reflects a badly informed choice – whether we select (human) touch or technology. We may endorse the touch that delivers value and use technology to supplement the touch that is not enhancing. Older generations may argue that there will always be interventions that cannot be substituted by technology. Even so, the scenarios that we have generated for the future of community care do not in every case give us the luxury to choose. Cost factors may suppress the development of hands-on-care in futures like *The Day After Tomorrow* or promote it as in *Local Hero.* And a 'top-down' governance culture intervenes to give technology a boost as in *Silence of the Lambs* and to give human touch better sway in the 'bottom-up' world of *Independence Day.*

From a demand perspective, as in the US, there is the possibility of premium services in which health service subscribers buy a personal relationship with their doctor. The person does not necessarily gain access to better care or to better decisions; they are simply paying for a personal relationship with a particular caregiver. Fee for service but not free for service! The impact of choice in an increasingly wealthy society should not be underestimated and it resonates strongly in two of the four futures we have imagined.

## 3. GENERATIONAL AND GENDER DIFFERENCES: YOUNG VS. OLD/MALE VS. FEMALE

The technology/human touch dilemma suggests generational differences of approach that will become more extreme as we move into the future. Tomorrow's professional leaders will not be drawn from the people who contributed to the Workshop and delegates stressed the significance of this.

Within current groupings, males aged between 30 and 50 have attitude issues to thier health care which lead to a low level of engagement. How do we get their interest? Is this age group's lack of attention a passing phenomenon or is there something about being a middle-aged male that will always bring engagement issues and lack of interest in one's own health (or if not lack of interest, denial).

These generational and gender phenomena are important for policy setting. It seems unlikely that any community care policies can be built on a 'one-size fits all' approach. This naturally limits the efficacy of 'top-down' approaches but as *The Silence of the Lambs* future reveals, there are situations in which commodification of services will be the rule.

Generation and gender studies are relatively new fields of research and we are not yet clear around what these differences might lead to in the provision of community care in the future.

# Headline Findings

## 4. WORKFORCE DEVELOPMENT: UNITY VS. FRAGMENTATION

There is potential for technology to be a unifying force in the workforce, integrating across professionals, volunteers and family members. The scenarios clearly indicate the need to recognise care-givers from all three sectors. Technology – particularly information and communications technology – also has a democratising impact in that it paves the way for greater transparency about care.

Robotics, which is still in its infancy, has the potential for revealing new emotional relationships between humans and technology (Apple-phobia for example) not unlike the relationships that can exist between human beings and older technologies such as modes of transport (cars, boats); hunter-gatherer tools (knives, guns) and games (chess, cribbage). These are likely to become significant areas for research and development.

There are concerns about overreliance on technology and what will happen when it is not always available, citing the example of a recent virus infection at the CSIRO Lindfield site that put many computers out of action and greatly inconvenienced many people, rendering some people unable to do any work at all. Despite the dilemma that the more connected we are the closer we are to total powerlessness, the contribution technologies make to workforce development are irresistible. Any policy initiatives that weaken the role of technology – and in particular the use of high-speed Broadband – would run counter to all the futures that this project has considered.

One anachronism about the status of care professionals is their lack of market power for a group that is such an important workforce sector. Of course doctors are well cared for but it is the lack of unity as a whole that is the problem. Clearly technology has a role in more effectively coordinating care professionals and may able to drive rationalisation of the sector into a more effective macro-economic unit.

## 5. COLLABORATION: SOCIAL VS. INDIVIDUAL NETWORKS

One aspect of the new technologies relates to the role of social media particularly has developed on the demand side by the clients of care professionals. We are at the very beginning of this 'bottom-up' revolution and cannot see clearly where it might take us. There is scepticism on the supply side (professionals often feel more comfortable working in a self-contained environment in which they are answerable only to their peers) that may prove warranted but, on the other hand, social media might just be an unstoppable force.

The rise of the networked society is not in doubt. It's already entrenched. But what kind of networks will eventuate? Will they reflect the needs of powerful client-groups as in *Independence Day* or community groups as in the *Local Hero* future? Will they be supply-side dominated as in *The Silence of the Lambs* or suppressed by a scary environment as in *The Day After Tomorrow*? These futures have great significance, for example, as to the role of digitised patient records in community care. We have no doubt that such databases will be developed but their actual use is not predictable. Will social media sites develop pooled information to help individuals better understand the care they are receiving and their rights in the process? Or will individual records remain private and, in some instances, available only to practitioners and not to clients?

The opportunity for creating tools that enable shared decision-making for clients and providers is also important.

Networks are of course global. They can broaden the concept of service provision and through such services as crowd sourcing reduce service costs. They can also offer significant resources for the measurement and extraction of knowledge with the intention of finding out what the status quo actually is, for example, with malaria, there is the potential to discover best practice in different regions of the world, offering social media data mining that can be repurposed for our needs in Australia.

# Headline Findings

## 6. ETHICS: US VS. THEM

In the 2011 development of the Community Care scenarios, policy intervention in a strategic domain with the heading of 'Ethics' was not discussed, although, of course, ethical issues were raised at a lower level of debate.

The 2012 Workshop changed that by elevating 'ethics' as a strategic domain in which strategic development linked to the Alternative Futures should be developed. What's more, technology plays a role in the ethical conversation because technology has the capacity to offer us how we choose to die rather than the death of default. As a consequence there may be more deaths at home which will save money, increase dignity, improve end-of-life management and require early personal planning for our end of days.

The euthanasia debate captures the 'us vs. them' dilemma that is so prevalent in healthcare. Current practice accepts supply-side informal euthanasia ('them') but as soon as the demand to euthanize becomes demand driven ('us') we are on another planet.

The other key ethics issue that needs to be addressed is the equity of the processes for distributing finite healthcare resources in a market where demand is growing. The first tension, as indicated earlier, is that between technology driven cost reduction and rising demand. This drives a second tension: between entitlements that we believe should be available to all citizens and people's capacity to pay.

## 7. INNOVATION: NEW VS. REPURPOSING TECHNOLOGIES

We are, without doubt, in love with new technology. But trying to be ahead of the curve often fails. Data mining is easier than new widget development. Repurposing existing technologies has a positive impact on productivity growth and the return on investment. The impact of Broadband on remote community service provision is clear and does not require new technology. It enables the localisation of the benefits of globalisation in contrast to costly alternatives

We can deliver workforce training to remote locations and build mobility and local problem solving capabilities at the coal face. This will help break down 'silo-mentality' and improve the development of flexible learning skills that conform to broad industry standards.

Significant advantages will accrue from the moving of free Broadband as a right of citizenship in parallel with adoption of open source protocols for applications.

# Headline Findings

## 8. DIAGNOSIS: PREVENTION VS. CURE

The age-old dilemma is still with us. Technology that economically tracks wellbeing, fitness and health, as well as the incidence of disease is a great need. We are generally well aware of health issues, but these health issues are escalating so much so that our new generation of children may be expecting shorter lives than ourselves.

There is a role for technology to screen for well-known misdiagnoses, for example, low sodium in the aged can produce very similar symptoms to delirium and is often incorrectly diagnosed as a neurodegenerative disease. There is an application for some sort of sensor to determine whether some common complications are present and to address those first.

The dynamic tension between prevention and cure is all to do with money. We have inherited accounting practices that fail monumentally to take account of the reduction in social cost that is delivered by preventative techniques. It's not unlike the arguments about externalities in climate change legislation. If the full cost of technology is to be incurred by an agency which does not reap the benefit it delivers, then the cost-benefit analysis suffers accordingly.

Tension is also exacerbated by the idea that innovation is only about product novation; it is more importantly about the culture within which professional operate.

Technology may also be a most significant driver of health literacy and healthy lifestyles provided the cost of access is low and information is presented in a value-free format that allows individuals to choose.

## 9. THE SOCIAL & LIVING ENVIRONMENT: MONO VS. MULTI

Technology acts as a powerful bridgehead between society and the built environments in which it is housed. The four scenarios propose quite different approaches to this relationship. 'Top-down' uniformity of care provision in *The Silence of the Lambs* suggests a world in which diversity does not receive the value that is placed on it as in *Independence Day*.

This tension is evident in approaches to immigration, urban renewal and growth, and social connection. And it appears to have, or will have, a significant impact on health workforce development and service provision. 'Smart' technologies probably thrive on customised approaches to service provision, on individually focused screening and sensor applications and lose their efficacy in commoditised environments.

‘When religion was strong and science weak, (we) mistook magic for medicine; now, when science is strong and religion weak, (we) mistake medicine for magic.’ THOMAS SZASZ

# PART

# Session one – First things

## QUESTIONS/ISSUES/FRAMING COMMENTS

### EMERGING THEMES TO HELP CLEARLY IDENTIFY A STRATEGIC FRAMEWORK FOR TECHNOLOGY PLANNING

Several themes emerged which might help us to more clearly identify a strategic framework for the thinking we plan to do about strategies for the use of technology in the future by community care professionals. We may see the way we develop synergies between strategies is as important as the strategies themselves.

These themes are bundled for ease of access using the *Neville Freeman (I)NSPECT* categories for mapping all key influences that are impacting our strategic environment. Please note that topics often belong in more than one category but for simplicity have been allocated to just one. For example, there are a lot of insights that intersect between the social and economic.

### THEME (I)

The ‘(I)’ in (I)NSPECT stands for the values, beliefs, ideas and worldviews that we all bring to bear on the topic at hand. These are the often-unacknowledged major shapers of our strategic thinking that tell us what we see and how we see it.

#### WAYS OF THINKING

The practice of scenario planning is such a major shaper and brings with it a belief in the importance of systems thinking. Systems thinking in turn brings with it holistic approaches where we think more about the system as a whole than the sum of the parts; on emergence rather than causality. But how do we identify the community care system? Do you do scenario planning with broad cross-sections of the community? Is it Integrated with the health system or are there multiple systems to deal with?

# THREE

## The Workshop Report

Clearly, our focus is community care in Australia rather than Asia or worldwide. In scenario work we go out to a future date – in this project to 2030. What is the impact of the chosen date on the way we think? How often would we need to reassess the scenarios and their relevance?

### ETHICS & VALUES

There seems to be a great need to discuss and investigate ethics. Most people want to make a difference in the world. And in the care profession this is often linked to the idea of creating a better future. What about our ethical frameworks? Will personalised medicine lead to compulsory individual responsibility for health and disease and will this take us back to a version of the notion of the deserving and underserving poor popular in the Victorian era? What about the people that can't make a choice? We need discussion about personal responsibility for one's own health.

There are tensions between generations: multi not just inter-generational; when is a life enough? Who decides and on what basis? Who decides what quality of life is? Sometimes technology and quality of life can relate to small 'things' that are impactful. Just how do we balance humanity and technology? All too often the value of life seems to be missing. We need to be sorting out ethics of end-of-life decisions and euthanasia.

Is shaping values an important strategy for shaping the future?

### UNDERSTANDING

Until the unconscious is conscious what happens to us is called fate! Nevertheless, optimism matters especially as uncertainty is a major concern.

# The Workshop Report

## THEME NATURE

The planet will protect itself in response to overpopulation. Will it be survival of the fittest? – or the fattest?!

## THEME SOCIETY

### AGEING SOCIETY

Where are the voices of older people and all other consumers in the policy debates? Will we have the same future issues with age as we do now with culture? Will older people be wise consumers? Will they know what to ask for and will they not fear technology?

We want the use of technology to enable the elderly to be more linked to community, rather than isolated by technology – the assumption that the elderly cannot handle technology is not correct.

### LONGEVITY

What if life expectancy goes up to 150 years or so (all in good health, both physical and mental)? But who wants to live forever!

### HANDLING UNCERTAINTY

Our ability to cope with change is paramount. Technology itself is never a sufficient cause for change … alone. Maybe someone has to invent the technology to make us change!

### COMMUNITY

We don't live in a bubble but as a community. But technology, does it divide or create community?

There's an increasing divide between the 'haves' and the 'have-nots'.

## THEME POLITICS

### FOOD

What are the political consequences of our inability to produce enough food?

## THEME ECONOMICS

### MEASURING UP

Over the past 20 years the emphasis on evidence-based policy has put a great deal of pressure on the need for metrics. So how do we know what we are doing is effective? What are the tools for measurement and how are they applied? Perhaps the 80/20 rule will always apply.

### FUNDING

There will be increases in total healthcare costs – even if the work force is not well paid.

### GROWTH INDUSTRY

Care technologies could be a source of Australia's international competitiveness bringing new industries and new capabilities. Are we harvesting the reverse – that is international innovation?

### BUSINESS MODELS

Let's not focus on a deficit model – but on an enabling/surplus approach.

Can technology change the cost healthcare?

The blue economy has some great ideas and possibilities.

Do care providers have a vested interest in ensuring people continue to need 'care'?

Watch for the increased use of telecare which opens up the possibility of 'offshoring' service delivery – the nurse in Nairobi caring for the patient in Perth.

Would I want to work in your community care agency? It sounds like it might be a 'robotised' call centre?

# The Workshop Report

## THEME CULTURE

### CULTURAL DIFFERENCES

How do we utilise technology with an appreciation of cultural differences?

Do your remote indigenous communities want white Australian care provision?

What can/should we assume about rural and remote communities? Decline and depopulation or growth and vitality due to increased population of urban exiles?

### GENERATIONAL CHANGE

The people who will be leading the technology side in 2030 are currently in year 12. Where are they at this meeting? Youngsters have strong relationships with ground-breaking technology.

## THEME TECHNOLOGY

### PUSH-BACK AND DEMAND-PULL

Technology push-back is often cited as a key driver. What if people reject technology and want to return to the 'old' way of doing things? Assuming they don't, how do we engage with the people who will benefit from innovation and technology? Open-source, user-defined devices are on the horizon.

Technology should not replace human interaction! There will always be a need for human interaction, but this can be facilitated through technology.

### THE UNEXPECTED ...

Innovations are not always foreseeable. What about disruptive innovations and ideas we are not even familiar with? Hell is the truth seen too late! We need to contemplate the potential for further discontinuous changes in technology, policy, government etc. As we cannot predict changes in technology; the medical industry will have to reinvent itself. But what is going to be the future content of the job of the community carer? What gap will be left by technology?

### ... OR NOT!

Technology was forecast to have revolutionised our lives already (robots etc.), so it might not be able to change our care needs in the future. Maybe the current trends and predictions are true.

### PRODUCTIVITY

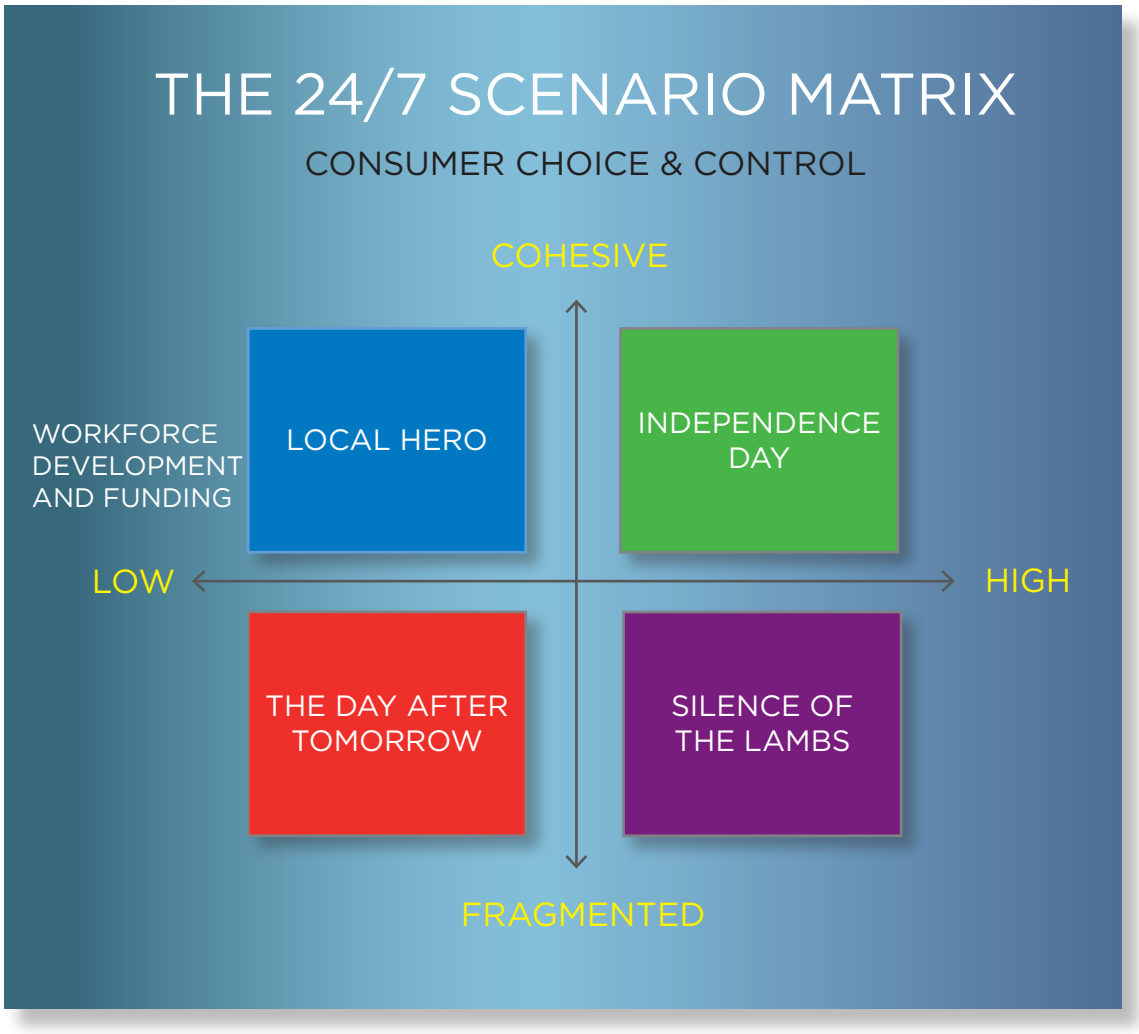
Technology which is planned and researched often doesn't realise its potential or instead is used for unintended applications. Does telehealth realise its potential? Let's make sure we learn from what has previously been developed; don't reinvent the wheel!

### OUR HUMANITY

Is technology shaping how we interact and connect?

# Session two – Learning from past work

REVIEW OF THE COMMUNITY CARE 24/7 SCENARIOS FOR 2030



# The Workshop Report

## TABLE OF KEY SCENARIO CHARACTERISTICS

| | SOURCES SCENARIO NAMES | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| | **The Day After Tomorrow** | **Local Hero** | **Independence Day** | **Silence of the Lambs** |
| **Topic** | | | | |
| Consumer choice and control | Low | High | High | Low |
| Political power of aged community | Low | High | High | Low |
| Workforce development | Unmanaged | Unmanaged | Managed | Managed |
| Productivity and level of funding | Low | Low | High | High |
| Integrated urban living | Low | High | High | Medium |
| Cultural diversity | Low | Medium | High | Low |
| Social connectedness | Low | Medium | High | Low |
| Screen dependence | Medium | High | Medium | Very High |
| Economy | Poor | Volatile | Great | Stable |
| Environmental awareness | Low | High | Medium | Medium |
| Australia's global partners | US/Asia | Asia | China/India | US/Asia |
| Polarisation of society | High | Low | High | Medium |
| Individual responsibility for care | Low | Medium | High | Low |
| Focus on customer relationships | Low | Medium | High | Low |
| Care provider competition | Low | Medium | High | Low |
| Immigration | Low | Moderate | Medium | Low |
| Urban growth | Medium | High | Medium | Medium |
| Care provision dynamics | You're on your own | User pays | Mixed economy | Nanny state |
| Family dynamics | Extended | Dispersed | Extended | Nuclear |
| Governance | Mixed | 'Bottom-up' | Mixed | 'Top-down' |
| Social outlook | Pessimistic | Fairly optimistic | Individualistic | Pessimistic |
| Labour market | Poor | Growing | Growing | Stable |
| Network infrastructure | Diffused | Dominant | High | Low key |
| Transport | Physical | Less important | Physically important | Mixed physical & virtual |
| Energy focus | Low | Renewable | Mixed provision | Traditional |
| Focus on technology | Low | High | High | Medium |
| Tax reform | Low | Low | Medium | Low |
| Role of Super in healthcare | Low | High | High | Govt. controlled |

SCENARIO 1

# The Day After Tomorrow

## OVERVIEW

MOOD: SURVIVAL

PRESENT DAY LINK: DISCONTINUOUS

IMPACT: ECLECTIVE

CHANGE EPICENTRE: GLOBAL

## SHOCK INFLUENCES

- global economy broken
- high inflation/pervasively strong A$
- impact of climate change
- low immigration, birth-rates
- low focus on innovation

## CONSEQUENT SCENARIO

- polarised society
- fortress entality
- fear/gated communities
- paradox of globalisation & localisation trying to co-exist

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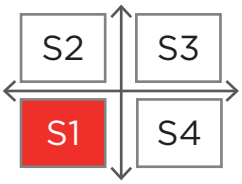



THE DAY AFTER TOMORROW

## SCENARIO 1: OVERVIEW

This is a world in which the broad characteristics of Australia in 2011 have become disruptively less favourable for the stakeholders in the community care sector. Quantitative change has driven qualitative change. The global economy has worsened and Australia's advantages, derived from its role as a leading primary producer, have been competed away as the strong Aussie dollar and inflation have promoted the doldrums that beset Japan and the US a decade or so earlier. The community care market is fragmented and as a result of the country's negative approach to organic population growth and immigration, whether formal or informal, the ageing of the Australian population has been exacerbated.

The theme for the sector is survival. Make do with what you've got, cut corners when you can and seek to help the wealthier clientele, even if this means breaking the system, by offering add-on services on a user-pays basis. Technology becomes a highly critical component in the health-care system by offering a real hope of increasing productivity at attractive levels of investment. But the technology investment is focused on the improvement and implementation of existing applications rather than the innovation of new stuff.

As the social fabric is both polarised and loose, community care professionals have to work hard to deliver quality and the result is a workforce that is hard to motivate and where job stability is low. The one compensation is that families are sticking together longer to provide a cushion for family members against the world outside making collaboration and self-help within family units easier to achieve.

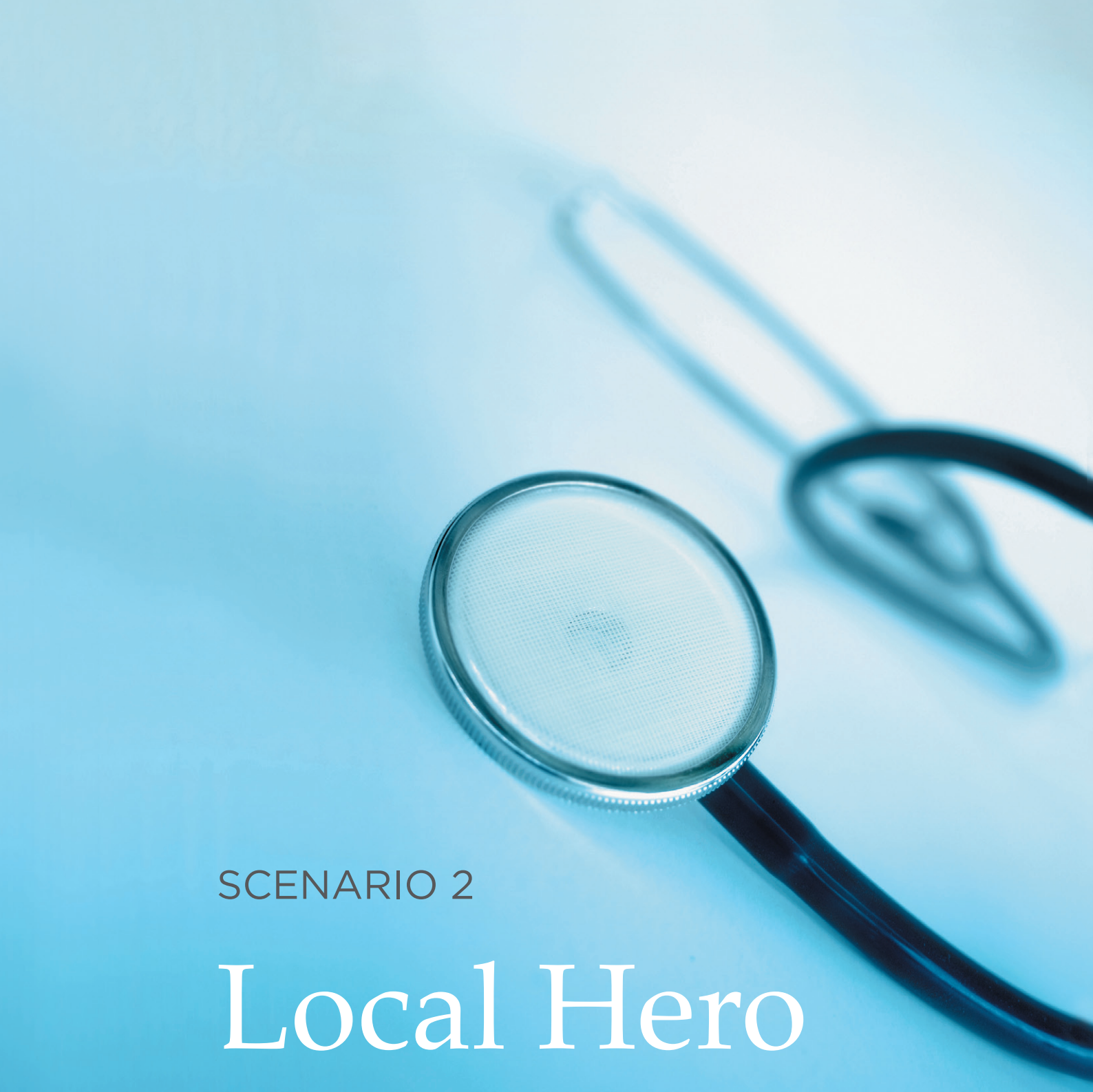
The fortress mentality affects everything. Here is a world where major events have combined to create an Australia that is frightened and scared. The impact of climate change is enormous with rain and rising sea levels the norm. The implosion of trust in basic institutions like banking and education and the social unrest created by the growing disparity between rich and poor, have forced most people to turn their backs on the notion of nationhood or global citizenship.

People with money remain engaged in the broader definition of the economy, yet they separate themselves off by living in gated communities and looking after their own patch. Those with less, who feel betrayed by the faded promises of the mining boom, have a desire to withdraw both emotionally and physically; they're people who rediscover an appetite for regulation, protectionism and parochialism; concepts they'd describe as a 'healthy self-sufficiency.'

Our reduced living standards have had some ironic benefits for the health sector. Those chronic diseases of opulence – obesity, diabetes, heart disease and depression – have reduced their intensity and people generally are fitter by reducing their reliance on transport for getting around. But life expectancy has re-established its steady rise which has inevitably increased the number of people requiring aged care. What you win on the swings you lose on the roundabouts … !

The relevant insignificance of physical networks is not mirrored in the virtual world. A second irony is that the more local the physical environment becomes (right down to an emphasis on the extended family) the more global is the virtual network that sits alongside. People willingly collaborate in global virtual communities while being relatively ignorant of those who live in the next street.

Welcome to a world where the benefits of globalisation and the challenge of dealing with the increasingly local focus are uneasy bedfellows



SCENARIO 2

# Local Hero

## OVERVIEW

MOOD: OPTIMISTIC

PRESENT DAY LINK: EVOLUTIONARY

IMPACT: NICHE

CHANGE EPICENTRE: LOCAL

## SHOCK INFLUENCES

- community care workforce poorly managed, poorly supplied — low productivity
- high immigration
- private investment in the sector falters

## CONSEQUENT SCENARIO

- focus on efficacy of local communities/self-help
- collaboration/decentralisation
- increased soial cohesion

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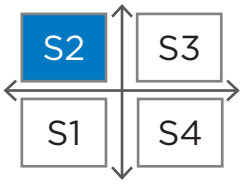


LOCAL HERO

## SCENARIO 2: OVERVIEW

This is a world in which consumers have a high degree of choice and control but the community care workforce that serves them is a disparate, poorly supplied and unmanaged affair. There's a great deal of pressure to secure higher wages in an economy that is patchy in its performance.

Productivity is low both within the care sector and in the economy at large. Consequently there are pressures on business margins that are reducing private investment in the sector and making it difficult to be innovative. The shining light, however, is an energised ageing generation of care receivers that is politically active and effective. The boomers keep on booming.

We are funding aged care in Australia through increased immigration from Asia especially into satellite cities in regional areas so as to minimise the impact on natural resources and infrastructure. Ghost towns from our past spring back to life as we create social inclusive societies to promote community connectedness, benefit local commerce and improve human relations within the community.

Urban design supports and facilitates integrated living within these communities and the communities exercise responsibility, interaction and reciprocity on individual and collective levels. Diversity of cultures is strengthened within a physical environment of social connectedness complemented by virtual networks.

Infrastructure in these satellite cities has been improved in preparation for increased immigration and the natural organic growth of our population but funding pressures are evident at every step. The focus on local solutions has, however, delivered a major social benefit in that the gap between the 'haves' and the 'have-nots' has been reducing year on year. Australia is a more equitable society.

As the idea of local living gains momentum, it ironically, becomes a global movement. 'Glocalisation' some call it. It is also a world in which environmental awareness is high and there is great emphasis on renewable energies and on reducing the need for carbon-based travel by using technology to drive travel-replacing effective virtual networks. Sustainability rules although most of the solutions remain fairly low-tech. Power generation shifts to local networks to avoid losses due to transmission, and most homes, offices and public buildings increasingly generate some of the power they require through a mixture of solar and wind. Cost, however, is an inhibitor of technology development, as people have to think carefully before committing to technology solutions.

Work, too, is localised. By and large people shift their employment needs and leisure diversions to things that are more local. Work-life balance remains a key part of this equation, with many people giving up a proportion of their income in return for less travel and less stress.

User-pays practices have grown inexorably but the social cohesion of family dynamics acts as a buffer against the development of a bureaucratic society lacking passion. Because the economy is volatile, governments are under pressure to stabilise funding at the national level, thus promoting the significance of the local in the way the system works best.

Video technology has become mainstream in the care profession but the enduring challenge is how to re-invigorate the professional community image to attract and retain its workforce.

SCENARIO 3

# Independence Day

## OVERVIEW

MOOD: OPTIMISTIC

PRESENT DAY LINK: EVOLUTIONARY

IMPACT: ECLECTIC

CHANGE EPICENTRE: GLOBAL

## SHOCK INFLUENCES

- high economic growth
- 'Asianisation' of Australia
- urbanisation accelerates
- boomers are 'booming'!

## CONSEQUENT SCENARIO

- ageing community in charge
- well-managed workforce
- smart science/smart cities
- global feeling of well-being despite social casulaties

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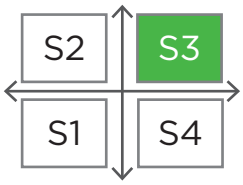



INDEPENDENCE DAY

## SCENARIO 3: OVERVIEW

This is a world in which workforce management is highly developed and where funding productivity is high. The citizenry being served can exercise discretion and control over the provision of services to meet its needs. Within the consumer realm, the ageing baby boomers increasingly call the shots.

Consumers in this world prefer providers who are environmentally responsible.

Australia is increasingly dependent on its relationship with China and India for its trade and with Asia more broadly for its workforce; there is more flexibility and diversity in care but we still run the risk of there being more inequity. The tension between high economic growth and social equity exists at a time when the economy is doing really well. Our society is increasingly polarised as greed continues its age-long battle against the demand for moderation and less consumption. This increases individual responsibility and drives more intolerance of poor self-care of health and a culture of high expectation.

Nevertheless, individualism is stronger, the market economy prevalent, government funding is for a safety-net and not entitlement.

Community care costs have increased significantly and represent a greater proportion of GDP. Its workers are highly paid, provide higher professional standards, have better professional standing and achieve better outcomes. Nevertheless, technical efficiency has declined as allocative efficiency has increased.

Technology, given that it is well used by the workforce, enables staff to focus on human relationships and customer expectations, including advocacy. Technology is also used to measure the performance of the workforce and to assist in the choice of provider. Patients have unique identity chips and, all in all, it is a very competitive market for technology to support community care.

Technology, from the consumer angle, as you'd expect, is highly coveted, whether it is the latest phone, the latest hybrid vehicle or the latest energy dashboard. It is a world of smart science and engineering.

As it turns out, this is not a flat world, as predicted by Thomas Friedman, but a very spiky one, as prophesied by Richard Florida. Global cities like Sydney and Melbourne attract entrepreneurs and innovators but other areas, especially rural areas, struggle to attract or retain creative talent.

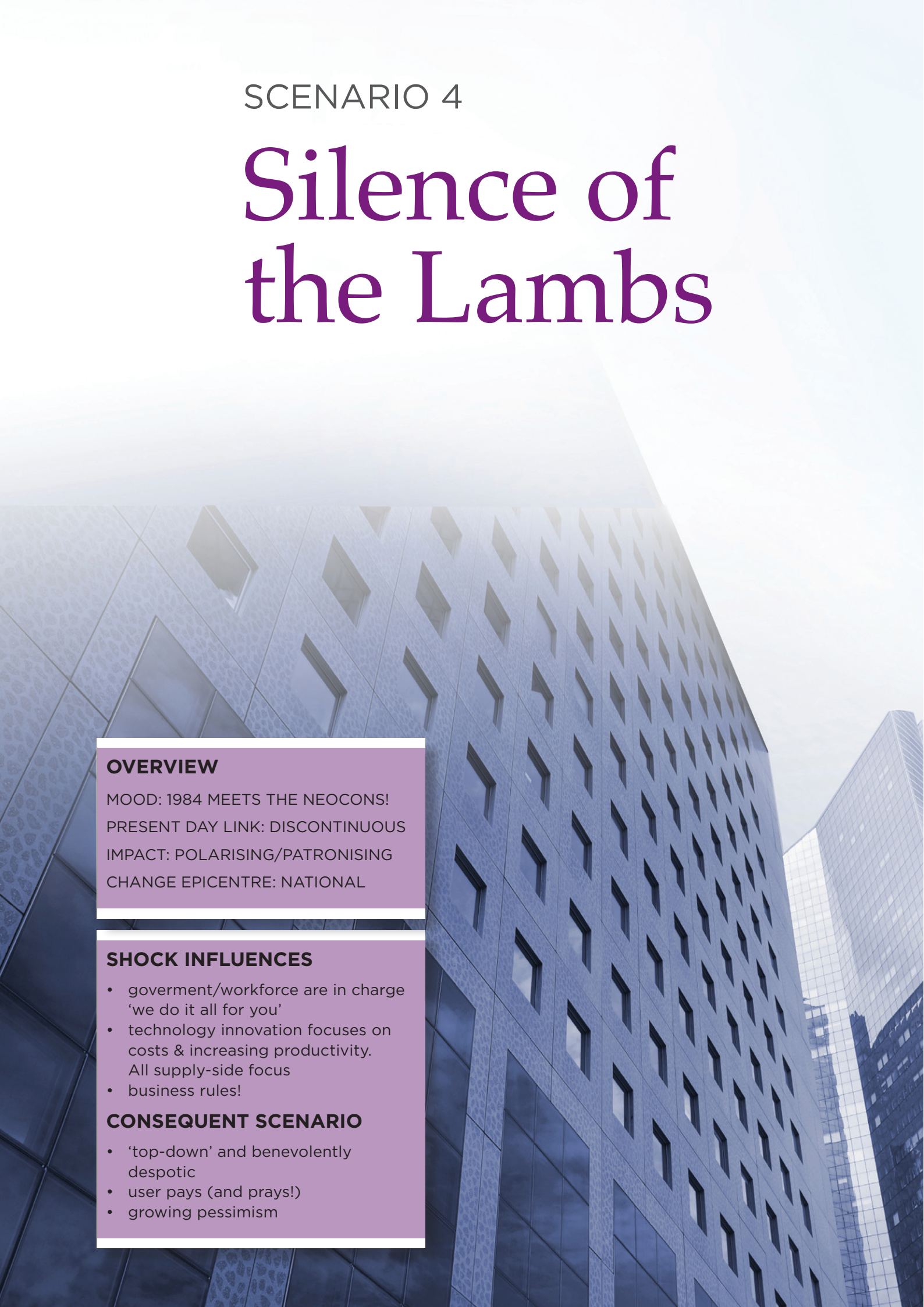
There is less priority on environmental management than we had expected. The focus is on immediate needs and comfort and developing policies that drive high levels of intergenerational participation and promote leisure interests. Clean technology is desirable but the internet and virtual worlds compete for attention over the physical world.

The boomers hold the balance of electoral power as they become an increasingly larger percentage of population demographics and retain economic wealth and assets as their life expectancy blows out towards 100 years.

The poor in Australia, of any age, are getting poorer. Multiculturalism expands and diversity in cultural activities, too. The demand for homecare and medical technologies increases with a further focus on reducing life-threatening diseases, self-monitoring, health prevention and wellbeing.

SCENARIO 4

# Silence of the Lambs



## OVERVIEW

MOOD: 1984 MEETS THE NEOCONS!

PRESENT DAY LINK: DISCONTINUOUS

IMPACT: POLARISING/PATRONISING

CHANGE EPICENTRE: NATIONAL

## SHOCK INFLUENCES

- goverment/workforce are in charge 'we do it all for you'
- technology innovation focuses on costs & increasing productivity. All supply-side focus
- business rules!

## CONSEQUENT SCENARIO

- 'top-down' and benevolently despotic
- user pays (and prays!)
- growing pessimism

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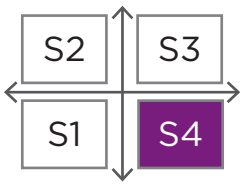


SILENCE OF THE LAMBS

## SCENARIO 4: OVERVIEW

This is a world in which consumers have limited options in service choice and little political clout. We use high technology in a world with a low carbon footprint where the use of video solutions abounds. This is a highly regulated 'top-down' world where there are limited choices for consumers. It's a litigious world with low consumer education and expectations and low support for personal choice – whether for dramatic events like euthanasia or the demand for control of personal health records. As a consequence bureaucracy rules the roost. Technology is for the provider and not the recipient. Screen dynamics are one-way with low emphasis on interactivity unless it is a sure route to cutting costs.

The citizenry is apathetic about the 'big brother' nature of governance in this society because although there are limited financial resources available for healthcare, it is a very well managed sector, with a workforce that is well trained and educated. People like being told what to do provided efficiency and productivity are high. They are disinterested in exerting control provided the government comes up trumps.

In technology, it's a predictably high-tech low-touch environment, with well-resourced and available workplace tools and the wide use of remote care modalities. Technology has impacted beneficially on reducing expenditure costs in health as emerging technologies from other industries have been easily transferred. Expenditure on health is controlled and constant regardless of changes in population and demand. The care-providing workforce is reasonably well remunerated without being over the top.

The economy is stable. Not good, not bad. In fact, the balance of payments of the economy is in surplus as the population has remained stable and expenditure is very efficient due to high reliance on technology and data from technologies. Nevertheless, taxes have risen as income from the mining industry has decreased because of lacklustre economic performances in Asia particularly in India and China.

Superannuation drives investments in healthcare and the environment but government controls it all. Early retirement is possible but you still need to contribute to Super and you are unable to access your Super until you are 75 – but the government can! The government calculates the cost of your continued care and takes those funds from your Super. It is also known as the sneaky tax!

Everything that can has become user-pays with technology assisting in the accounting for who should pay.

Ever-increasing natural disasters and pandemics are well managed. But any disaster that impacts on technology is catastrophic. Manual processes have been forgotten but there are emerging technologies that are now enabling better continuity of technology.

The population is stable with low levels of immigration but its apparent optimism is based on the dumbing down of consumer activism. This movement is suppressing social tensions in a way that makes the overall social outlook much more pessimistic.

We may have never had it so good but nothing lasts for ever – the incipient revolution is building force as the lambs of the new generation of adults begin to resist going to the slaughter as their parents have done.

# Session three – Back to the future

THE FRAMING QUESTION FOR THE WORKSHOP WAS REDEFINED

> *'What care-enhancing practices will the community care profession in Sydney and throughout Australia need and be able to employ to utilise successfully the potential of high speed broadband and other technologies both now and into the future?'*

# Session four – Stories from the technology frontier

## SO WHAT *COULD* TECHNOLOGY ENHANCED CARE LOOK LIKE IN 2030?

### THOUGHT BURSTS FROM SIX INVITEES

### LEIF HANLEN

Director Health, National ICT Australia (NICTA)

Leif asked several questions, the answers to which will be formative in shaping the future:

- *Will human touch become a luxury in the future? Or will it become valued?*
- *Will there be challenges between the young tech-savvy population vs. the rest?*
- *How do we minimise the damage of privacy issues?*
- *Could health technologies become (if they are not already) a target for cyber-terrorism?*
- *The technological world is fast-paced where change happens fast, but will it always be a happy place?*

He reflected on these questions and noted that the future workforce will be mobile and that there will be remote access to education. His expectation was that professionals will be plugged into work, the same way they're now plugged into social networking. Technology may well reduce face-to-face contact making social connection much more incidental and reducing holistic approaches. It will be a turbulent journey but we can't prove the future is safe until we get there!

### CATHY TEAGER

Program Manager, Health Workforce Australia

Cathy noted how the workforce must be competent and capable, no matter what; and the dangers of remotely placed care professionals relying solely on technology for decision support:

*At the centre of each of the scenarios is the human healthcare need and the response of the workforce to meet that need. We are familiar with the call for patient-centred care but my plea is to partner that with workforce-centred change management.*

*Regardless of whether the care is publicly or privately funded, location of delivery or mechanisms used to deploy the service, the workforce must be equipped with the 'fit for purpose' competencies and capabilities.*

*What we call the workforce and how we arrange them is another matter. Striving for a well-motivated, respected, supported and competent workforce allows for productivity, innovation and quality care to flourish. Technology and e-health is only useful if the user knows how to use it, interpret the data provided and has the capacity and culture that allows analysis and response. In the future, in situ home monitoring care will be mainstream but the workforce responses may be vastly different.*

*Social isolation is real and increasing as the workforce struggles to deliver care in the right place for the patient, not against the traditional paradigms. A workforce that delivers care remotely and relies heavily on technology for decision support and intervention is in danger of losing some of the central drive to lay on hands and 'help' people.*

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## SUSAN FELDMAN

Assoc. Prof., Director, Healthy Ageing Research Unit at Monash University

Susan spoke of the importance of the voice of Elderly Australia, how to assist older people experiencing behavioural changes and the need to promote an inclusive agenda with health information for all.

*Change management is crucial so we end up with people involved in projects equipped with the most relevant toolkit. But what matters even more for healthcare of older people is ensuring that the voice of elderly Australians is included in the dialogue, especially those currently living in their community. Will technology assist elderly Australians born overseas? Can we engage with elderly people who do not people speak English? What are the technologies that may assist communication and dialogue?*

*Another issue is people with dementia whose number will increase significantly in the next 20-30 years. We need to better understand the triggers for behaviour change and respond with technologies that assist older people to continue to function in a safe environment, with monitoring and maintenance devices that ensure their health and wellbeing until they cannot manage on their own at home.*

*In general, we need to promote an inclusive agenda with regard to health information for all regardless of language, culture, geographic regions and gender! We need to develop enabling technologies and a political agenda recognises that there are differences in current cultural differences in education, language, literacy, numeracy, age and gender that may limit an individual's ability to access the technology.*

## SARAH DODS

Theme Leader – Health Services, CSIRO

Sarah talked about the projections for the future cost of Health services, and the need for disruptive change ahead.

*Healthcare budget is currently 4% of GDP – rising to 7% by 2050. State Government contributions to that figure will consume entire state budgets by (sometime around) the 2030s. If we want health to remain available, something needs to change. Increasing the Medicare levy (anecdotally currently covers around 5% of acute health costs) won't work. Spending more money on research for new medical treatments is very worthy, but somebody will have to pay for them. Will the system be able to afford new treatments?*

*GDP may be less of an issue than workforce availability. Are there other paradigms – such as optimising human touch to the market economy – more helpful to achieve the preferred future in healthcare?*

*Think about health today – fee for service model. For a doctor to get paid, you have to go and see them. For a hospital to get paid, you have to go and see them. It is a reactionary system that fixes problems that have already occurred. There is no incentive to reduce the demand for services.*

*A new model that is developing is 'population managed health'. This looks to reward based on managing need and outcomes within a population, instead of transactions with people actively seeking care. Goal is to keep the population as healthy as possible. Is this Big Brother, or Little Sister?*

*It's not just blokes who aren't great on health promotion; health literacy needs a greater focus.*

*We are starting to see baby steps towards this goal in a number of initiatives: telehealth, managed care plans, Government attempts around diabetes management, transparency of results, and patient controlled booking systems.*

*This kind of approach needs sensors and automation – in both monitoring the population, and sifting through results, analysing, and referring. Low touch sensors appropriate to individual circumstances sit*

# The Workshop Report

*quietly in the background – until they work out that care is needed. These tools should be largely invisible, passive, simple, and very, very cleverly interpreted. There is great difficulty in designing things to be simple to use.*

*An example may be someone who has previously been treated for depression or at risk of social isolation – passive audio sampling & analysis may be able to check warning signs. Or perhaps behavioural patterns that suddenly change, detected through pressure sensors in a favourite chair or use of the kettle. For a chronic disease sufferer, there may be more detailed collection, and there are already telehealth companies working in this space.*

*In Health, there is also a need, and challenge, in offering support to enable decisions, in terms of 'you might … ' rather than prescriptive 'you must'.*

*This is seriously disruptive change. From our nature, it will engender fear in those invested and trained in current methods. To me, it is a fascinating vision of enablement, and technology supporting and improving, without interfering with, human activity.*

## GEORGE MARGELIS

General Manager Australia, Care Innovations (an Intel GE Company)

George addressed the idea of rewarding those who *don't* seek healthcare. He also spoke of the consequence of high-cost health technology, which could exclude those who really need it (but cannot afford it):

*The 24/7 Scenarios are based on three key models that we need to integrate.*

*The Social model: do we as a society believe that providing care to those in need is a basic requirement? In Australia we support this model although different economies and societies have different versions of it driven by their own environments.*

*The Care model: how do we deliver care? Today, it is very provider centric, but as we evolve to a model where patients take more responsibility and tools are provided to help them do so, the care model will evolve to enable them to do so. There will always be a role for doctors and nurses but their jobs and the systems that support them, like education, will change over time.*

*The Business model: who will pay for care? For care to be provided someone needs to pay for it, and someone needs to be paid. In future scenarios there is a push to reduce care provision costs. But, for providers, this challenges their sustainability. The income they receive needs to cover significant fixed costs. Focusing on cost savings alone may force some providers to work out how to cut their own costs and to do do that they may need to reduce their services to fit within the payment restrictions.*

*How we balance these three models is the key to developing new care provision systems for the future. We need to make decisions about how we prioritise these models, and ensure we save costs to keep the healthcare system sustainable, but also ensure that providers have sustainable businesses.*

## ANNE LIVINGSTONE

Research & Development Manager, Global Community Resourcing Pty Ltd

Anne spoke of the critical need to position, move, or redesign the traditional models of community service delivery:

*We are already seeing early signs of the transformative affect the uptake of technology has on community-based aged and disability service delivery. Serious discussion, consideration and planning need to take place to position and move traditional models of community service delivery. In particular, there is a need for a comprehensive redesign of service models and planning for workforce development.*

*Careful consideration needs to be given to new approaches to funding and policy formation. Clearly many current structures are not transportable if the new landscape of care delivery has technology front and centre. A serious vision and leadership for the sector is required where industry players, as well as users of community care services, are engaged.*

*Critical considerations are:*

- *quality improvement;*
- *greater consumer engagement;*
- *a safer and more supported workforce; and*
- *more accessible services.*

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## THEMES – COMMON AND UNCOMMON

The plenary group was then asked to identify common themes from the presentations:

### COMMON THEMES

- The need for a balance between technology and human touch in care
- Innovation is a mandatory part of the clinician's role
- The cost model has to change in the future with increased ageing population
- Technology as an enabler of change
- Cultural diversity matters need to use technology to empower and enable
- How do we pay for technology and innovation?
- Based on demographic trends, what do we know about numbers of non-English speaking individuals in Australia in 2030 and beyond? Same question for illiteracy and innumeracy
- Refer to existing data about projections of older Australians in 2030
- All seems to be very linear thinking; I have not heard anything new!
- Social isolation a problem
- Need for inclusiveness and humanity
- Technology takes away the humanity
- Need for change management – both technical and adaptive
- Mobility
- Funding
- Preventative health

… and then to identify:

### UNCOMMON THEMES

- Information vulnerability
- Housing
- Multiculturalism
- High-cost low-penetration vs. low-cost high-penetration technology
- Challenge of alignment with info savvy stakeholders
- What do people want? To be seen by doctor frequently and maybe touched? Or the potential peace of mind of knowing their doctor is monitoring them and will be in some kind of touch if the need arises? Not to suggest human interaction is not important, but it can come in many shapes and forms. Bottom line = less touching, more people being cared for potentially
- Informal carers – how to support and engage?
- There is technology adoption curve re-costs and usability; need to invest in higher cost research so that it can evolve into lower cost technology
- More on 'touch': if a patient is monitored using telecare, perhaps a nurse visiting can focus on their overall wellbeing instead of 'wasting time' on collecting physiological measurements
- How do we allow people to die rather than live in very poor health kept alive by technology?
- A further model could be the role of technology as an enabler or is it the business model.
- How do you make money doing all this stuff … !

# Session five – Designing the future

IDENTIFY THE CONSTRAINTS/FREEDOMS WHICH LIMIT/PROMOTE USE OF TECHNOLOGY IN YOUR SCENARIO

## SILENCE OF THE LAMBS

LIMIT

- Groups opt-out of the system
- Lacks innovation
- One size fits all (or no-one?)
- Paternalistic creativity
- Suppressive
- Who owns and operates technology – public or private?
- Culturally it would be very difficult for Australians to live in this model, a lot of change management would be needed

PROMOTE

- Don't worry, be happy!
- Security, certainty, integrated government approach
- Fast adoption of new technology
- Rational, efficient and equitable (levelling down)
- Close alignment between research and implementation
- Don't have to worry about family/ parents or self
- Singapore model with more control and less choice
- Constraint (late!) – Information silos with facts derived from limited datasets
- Less envy
- Seamless model of care best on evidence-based best practice (subject to affordability)
- Different workforce – highly trained, technology enabled health professionals

## INDEPENDENCE DAY

LIMIT

- Social inequality based on resource access
- Costs of care – who pays? Insured vs. non-insured
- Ability of people to use technology
- Intolerance for the sick with no consideration for genomics, other determinants
- Government spending will be at safety net level only
- Lack of informal carers due to changes in family structure

PROMOTE

- Technology supports social needs
- Political power of boomers
- Bringing cheap overseas labour will facilitate technology uptake
- Individual choice is strong
- Improved communication and sharing of information
- Offshore care
- Individualised care

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## THE DAY AFTER TOMORROW

LIMIT

- Limited resources
- Low resources, lack of purchasing power
- New technology is stagnating due to economic risk of innovating
- Shonky apps, lower standard of technology leads to lower consumer confidence
- Economy with limited resources, which prevents investment in emerging technologies etc. but also the individual investing in technology
  Fragmented and frightened society

PROMOTE

- Open-source, ubiquitous technology, online sourcing – enables and encourages self-diagnosis
- Technology allows escape of environment without escaping responsibilities
- Low cost of labour
- A small amount of investment will be well received
- Unfettered markets open to entrepreneurs who produce adequate and affordable technologies (no frills)
- A poor economy will disrupt technology
- Online sourcing provides freedom to import technologies (e.g. pharma, prosthetics etc.) from low-cost sources
- A heavy dependence on family and their ability to work within the system

## LOCAL HERO

LIMIT

- Workforce; disparate and poor supply
- Lack of funding to innovate, support and implement
- Diverse population and lack of structure would make effective IT to meet all needs
- Local focus may inhibit investment in technology
- Technology used reactively
- Geographic spread

PROMOTE

- Consumer and communities engaged and interested in technology
- Neutral cultural diversity, economic volatility, local focus
- It would augment poorly supplied workforce
- Good urban design support localised innovations
- Migrants familiar with technology
- Local focus/small-scale fosters innovation
- Family connectivity, work-life balance
- More time for creativity and innovation
- When systems are in crisis this is when you often get the best innovations!!

# Session six – Designing the future

IDENTIFY UP TO FOUR STRATEGIC DOMAINS TO FRAME YOUR CONVERSATION ABOUT NEW TECHNOLOGY APPLICATIONS

**THE GROUPS OFFERED THE FOLLOWING TOPICS:**

- Research
- Culture
- Integrated health planning
- Wellness
- Culture – harnessing the strength of a cultural diverse community
- Multi-sectoral engagement – partnership development and co-ordination
- Funding – means testing, superannuation access
- Service delivery models
- Technology rollout and implementation
- Person-centred care
- Social Inclusion
- Economy/finance/resource
- Infrastructure
- Consumer engagement
- Communication
- Value and outcomes
- Research – innovation and translational research
- Training and development of workforce
- Funding
- Workforce
- Social responsibility – divide between the 'haves' and 'have-nots'
- Quality assurance
- Workforce – highly paid human contact vs. lower paid immigrants
- Community-wide capability
- Ethics – ethical political and economic decision making
- Influencing market drivers for innovative technologies and services
- Workforce – education, development, supply
- Regulation and control of citizens and service providers (of care, money etc.)
- Lived environment – housing, community access, safety, accessibility, adaptability
- Risk management (IT, power, water, dissent)
- Economic and funding paradigms and modes, barter economy as well
- 'Production planning' – right care provider doing the right thing in the right place for the right people at the right time
- Public/private partnerships
- Models of care, models of service, social models of inclusion, participation, wellbeing, self-responsibility, volunteering

# Session seven – Where shall we act?

ALL ORGANISATIONS NEED TO IDENTIFY THE STRATEGIC DOMAINS IN WHICH THEY HAVE THE CAPACITY TO ACT AND THE HEALTHCARE INDUSTRY WILL NEED TO USE FORESIGHT TO ENSURE THAT ITS CHOSEN DOMAINS ARE RELEVANT TO THE LONG AS WELL AS THE SHORT TERM.

We decide together what these domains might be and seek to establish about 4-8 of these with their relevant subsets.

What are the strategic options in each scenario for the strategic domains set against the context of the constraints and freedoms that each scenario offers? And which are the most important of these that we would like to see as strategic options?

| Domain | Domain subset |
|---|---|
| D1 | **Workforce**: education, supply, immigration |
| D2 | **Service Delivery models**: quality assurance, integrated health planning, models of care |
| D3 | **Economics and Investment**: funding models, public/private partnerships, insurance, superannuation |
| D4 | **Social and Society**: consumer engagement, volunteering, culture, multi-sectoral engagement |
| D5 | **Innovation**: research, translation, technology roll-out and implementation, championing |
| D6 | **Ethics**: person-centred care, wellness, community wide capability, social responsibility |
| D7 | **Living Environment**: regional community, infrastructure, urbanisation |

| STRATEGIC OPTIONS RELEVANT TO THE FOUR SCENARIOS | | | | | | | |
|---|---|---|---|---|---|---|---|
| | The 7 Domains | | | | | | |
| | **D1 Workforce** | **D2 Service Delivery Models** | **D3 Economics and Investment** | **D4 Social and Society** | **D5 Innovation** | **D6 Ethics** | **D7 Living Environment** |
| Silence of the Lambs | Universal minimum standard, professional improvement.<br><br>Integrated workforce plan. | Investment in technologies that give us best bang for our buck.<br><br>Production planning algorithms to maximise resource efficacy. | Digitally driven, no bricks all clicks. | Citizen empowerment within defined boundaries, trust in government.<br><br>Implement Nanny state, control social networking, ban freedom of speech.<br><br>Keep immigration low. | Multi-agency decision-making driven by government.<br><br>Economics: rationality and utilitarianism as drivers.<br><br>Seek world's best practice input and technology. | Replaced by insurance.<br><br>Ethics committees banned!<br><br>Correct targeting of resources.<br><br>Individual privacy, ownership and autonomy. | Integrated community development within broader community.<br><br>Multi-generational mixed mode housing; environmentally friendly built. |
| Independence Day | Develop flexible learning and skills development strategies – using simulations, and problem solving, supported by use of IT.<br><br>Give front-line workers the responsibility to solve problems. | Services delivery models: quality assurance, inter-grated health planning, models of care<br><br>Preventative and predictive whole-of-life wellness monitoring.<br><br>Minimum level of technology is available to all (infrastructure). | Care packages – there is a basic minimum liveable package available and can be topped up with own $'s.<br><br>Escalation of care by exception. | Quantitative care by technology will allow more qualitative care by human interaction.<br><br>Ongoing monitoring leading to access to appropriate online communities for support, information, social interaction. | New approaches and technologies will be encouraged, but it is understood that there is a risk of failure that needs to be managed.<br><br>Innovation; develop systems for technology development with defined standards for interoperability. | All decision-making is transparent, so that everyone is clear of the reasons behind that decision.<br><br>Should reflect community standards – needs public and engaged forums for robust and ongoing community debate, including social media, regarding use of resources and standards of living and dying<br><br>Consumer-directed choice care packages.<br><br>Advocacy for those with a voice or appropriate skills. | Develop households, utensils and services suitable for use by aged people.<br><br>Urban design, develop mixed communities with a variety of residents, facilities that encourage physical activity. |

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| | D1 Workforce | D2 Service Delivery Models | D3 Economics and Investment | D4 Social and Society | D5 Innovation | D6 Ethics | D7 Living Environment |
|---|---|---|---|---|---|---|---|
| Day After Tomorrow | Informal workforce development – are these the 30% unemployed?<br><br>Schemes for unemployed – move them into nursing homes. | HIP = Health Information Portal (ap.), an early diagnosis, government-approved platform.<br><br>Up-skilling of pharmacists, community nurses, allied health profs, personal and technical assistants to diagnose and treat. | Outsourcing radiology, assessment and diagnostic tests, remote robotic surgery etc. to cheaper global markets.<br><br>Market the Health Information Portal (HIP) software internationally ('Aussie know-how'). | Rebuilding community contacts through government facilitated programs.<br><br>Through high-schools, educating our general population in high-level self-care/diagnosis, personal care assisting to support family groups. | 'Community Purchased' healthcare. | Ethical principles underpin decision-making across all domains (if you can afford it!).<br><br>Individuals provided options for healthcare, such as integrated government centres for quick, diagnostics.<br><br>Die with dignity at home – assisted dying (not the 'E' word). 'Accelerated living'. There is a new market for 'dying services'. | 'Gated Health Communities' (health detention centres) for those that cannot afford their own community.<br><br>Families join together to take advantage of economies of scale so they can afford access to the health services they need.<br><br>Environment is built to support family and individual privacy but still take advantage of the community connectedness.<br><br>Close nursing homes in lieu of the new gated communities – provide bonuses for communities, families and individuals that self-manage. |
| Local Hero | Funding training and governance to support community enterprises to manage/provide care.<br><br>Training tailored to new arrivals to support increasing needs. | Smart decision-support system for low skill workforce/ audio-visual instructional support and technology-mediated translation.<br><br>Service delivery; telehealth enabled diagnosis. High value-add for high risk functions. | Triage tools to prioritise across community needs.<br><br>Use of technology to foster volunteering, skill exchange and collaboration. | Local search portals to cut through the maze of information and inform choices.<br><br>Facilitating consumer empowerment and client directed care. | Opportunities for private philanthropy.<br><br>Development of web-based services to reach more people more effectively and therefore efficiently. | Policies and structures to support the community-based provision of care, i.e. interpreting services (to avoid family interpreting for family).<br><br>Utilitarianism best for broader community.<br><br>Policies to maintain the equality of access to care.<br><br>Technology to assist in working through ethical implications of difficult health and community care issues; use to facilitate informed consent, e.g. organ donation; use to record advanced care. | Development of integrated hubs supporting people to age 'in place' and to support intergenerational involvement.<br><br>Provision of technology to ensure maintenance of social connection e.g. Skype. |

# Session eight – Getting to the 'Now'

## WHICH ARE THE MOST IMPORTANT STRATEGIES TO BE IMPLEMENTED TODAY IN PREPARATION FOR THE UNCERTAIN FUTURES EXPRESSED BY THE SCENARIOS?

### D1

#### WORKFORCE

- Technology to deliver the training to the environment instead of taking the workforce away to learn.
- Give frontline workers the responsibility and environment to problem solve and contribute to future technological needs.
- Implement universal minimum standards which develop industry respect and create career pathways.
- Use of technology to support mobility of learning – personal learning and professional portfolio – (carry competency log).
- Inter-professional education and practice that includes the use of technology – break down professional silos.
- Develop flexible learning and skills development strategies using simulations and problem-solving supported by use of IT.

### D2

#### SERVICE DELIVERY MODELS

- Make minimum technology available to all.
- Investment in technologies that give best bang for buck.
- Investment in new affordable service delivery models that take advantage of existing and emerging technologies in an 'open source' environment. Funding to support that approach.
- Shared e-health records accessible by service providers and the consumer.
- Shared decision-making tools for consumers and providers.

### D3

#### ECONOMICS AND INVESTMENT

- Reconsider the economic model for community care, e.g. entitlement vs. capacity to pay.
- Outsourcing services across international boundaries.
- Digitally-driven more clicks less bricks.
- Better use of the capital infrastructure – encourage mechanisms for optimum mix of public-private resourcing.
- Use of technology to foster volunteering, skill exchange and collaboration.
- Provide competition to nursing homes so they lift standards and become more quality competitive.
- Incentives to encourage technologically assisted casual community care so people can stay in their homes longer as a strategy to improve quality of life and be cost effective.

### D4

#### SOCIAL AND SOCIETY

- Qualitative care by technology will allow more qualitative care by human interaction.
- Promote health literacy and healthy lifestyles.
- Personal empowerment and community connection – moderated or accredited portals, cut through the maze of information from choices and promote social connection.
- Personal empowerment – including less common conditions and service options.
- Personal health monitoring – personalised medicine, lifestyle learning.

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## D5

INNOVATION

- Easy-access IP: set up technology-transfer offices/hubs to disseminate technological advances openly to allow commercialisation (no strings attached).
- Change management of technology adoption rather than developing new technology itself – leverage what we already have (end-user focus).
- Encouragement of innovation whilst acknowledging risk of failure.
- Building innovative culture across the whole sector, all parties present.

## D6

ETHICS

- Develop an ethical framework that reflects community standards – needs public and engaged forums for robust and ongoing community debate on the development and deployment of technology.
- Decide at what level of development and application ethical consideration should be discussed.
- Ethical input into decision-making in relation to the rationing of healthcare.
- Using technology (Broadband/multi-media) to deliver more equitable information access (including CALD/illiteracy).
- Person-centred care, wellbeing, community-wide capability, social responsibility.

## D7

LIVING ENVIRONMENT

- Building suitable sensitive accommodation and providing incentives (tax breaks).
- Develop 'smart' households.
- Urban design, mixed communities and encourage physical environment.
- Develop technology to keep social connection.
- Suitable/affordable (small) transport.
- Install 'monitors', for example: simple – falls; complex – ECG; abstract – toilet flushes, fridge openings, carer visits.

# Session nine – So what shall we do?

THE GROUP WAS THEN ASKED TO REFLECT ON THE INSIGHTS, THOUGHTS AND THEMES PROMPTED BY THE LAST SESSION.

## INSIGHTS, THOUGHTS AND THEMES

### D1

WORKFORCE

- Remember our school environment and create information and opportunities for school-aged students to understand the culture and positive outcomes working in community care.
- We cannot change the world until we gather the knowledge to change it. We are a tipping point and we need to choose the direction, set the milestones and stay the course. We need to use social media to gather the technology that is already out there and join up the dots.
- We need to stop choosing the flavour of the month to jump on; we need to be much more considered and careful to make policies that are sustainable.
- We need to do a national stocktake – can we set up a system to do this? But, why haven't we got the stocktake data now? It's become a complex exercise due to database fragmentation. If we did make a stocktake would we be able to employ the findings? Possibly not due to current activity-based funding models which are forcing financial decisions to be made without due deference to the future.
- We can do the stocktake of what we have. It is easy technically, so how do we extract the common elements from each of our organisations?
- Perhaps a 'coalition of the willing' ought to take this forward to ensure cross-sectoral leadership.

### D2

SERVICE DELIVERY MODELS

- There doesn't appear to be anything new. All of these strategies have been around for at least 20 years. If we have 20 years of thinking behind this what are the blockers preventing us from moving forward on these strategies?
- We need to have conversations that we're not used to sharing – sitting with entrepreneurs, technologists, medical device makers, service providers. This creates new possibilities for how we spend our limited income in service delivery and patient care.
- Reverse engineering – we often try to take new technology and make it fit in the health environment instead of creating new technology from within the health environment.
- We need to speak with the generation to whom the technology belongs to see how they would use it.
- Technology can work in a really simple manner, e.g. use of Skype in nursing home with demented residents – highly successful at a very low cost.

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## D3

### ECONOMICS AND INVESTMENT

- Let's make 2030 more relevant and engage the 20-year-olds today. They are more receptive to technologies. The technology is already there but we need to focus on the application of the technology – aggregated with other technologies.
- Technological uptake – e.g. tablets and smartphones universal adoption – but in community care the average time a patient is on a product is about 2 years – this creates marketing challenges.
- Why is there no uptake of new opportunities? – is it a lack of awareness of our potential; a presumption of utility/effectiveness or not; a sense that the benefits are not great enough or not perceived as great enough; or a fear of the unknown?

## D4

### SOCIAL AND SOCIETY

- We need to leverage the potential of technology we already have, especially at the leading edge; stock take of potential and using that information to be more strategic and collaborative in shaping our preferred future.
- Culture is very important, sometimes options that look reasonable from financial point of view, for example, Singapore case, but culturally would not suit Australian society
- We need to create a renewed sense of community where care of its members is its priority
- The importance of leadership, both at a macro-societal level but also the micro-leadership – we can each provide in our own spheres of influence. Let's take on board the importance of collaboration and the value-add potential of technology so we can progress to a preferred future by taking the steps we can take in our own spheres of influence.

## D5

### INNOVATION

- We are looking at technologies that are already here. We are not looking at those areas that we can't even imagine.

## D6

### ETHICS

- Is part of the uptake issue related to the general motivation for people working in this area who just aren't interested in the technology part of service delivery?
- Health and aged-care is becoming unaffordable so change is inevitable.
- Is this just a Western, first-world problem and are we on completely the wrong track and should the focus be elsewhere?

## D7

### LIVING ENVIRONMENT

- Engage Year 12 kids to help us solve some of the issues that they foresee for their grandparents and parents.

‘Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less.’ MARIE CURIE

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