



**Australian Government**  
**Australian Digital Health Agency**

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# Digital Health, an innovation opportunity

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[www.digitalhealth.gov.au](http://www.digitalhealth.gov.au)

# About Australia

If Sweden were your home instead of Australia you would...

be 42.11% more likely to be unemployed

[more info](#)

be 60.42% less likely to be in prison

use 47.45% more electricity

consume 28.57% less oil

have 4.23% more free time

experience 24.09% less of a class divide

be 41.31% less likely to die in infancy

make 4.88% less money

spend 13.36% less money on health care

be 18.18% less likely to be murdered

die 0.18 years sooner

be equally likely to have HIV/AIDS

have 2.21% fewer babies

24million people



# Medicare – Universal Health care

Medicare provides universal access to health care:

- Free **public hospital** treatment as a public patient; and
- Subsidised **medical** and **pharmaceutical** services.
  - Bulk bill or pay the gap

## Medicare Principles

- Choice of services
- Universality of services
- Equity in service provision



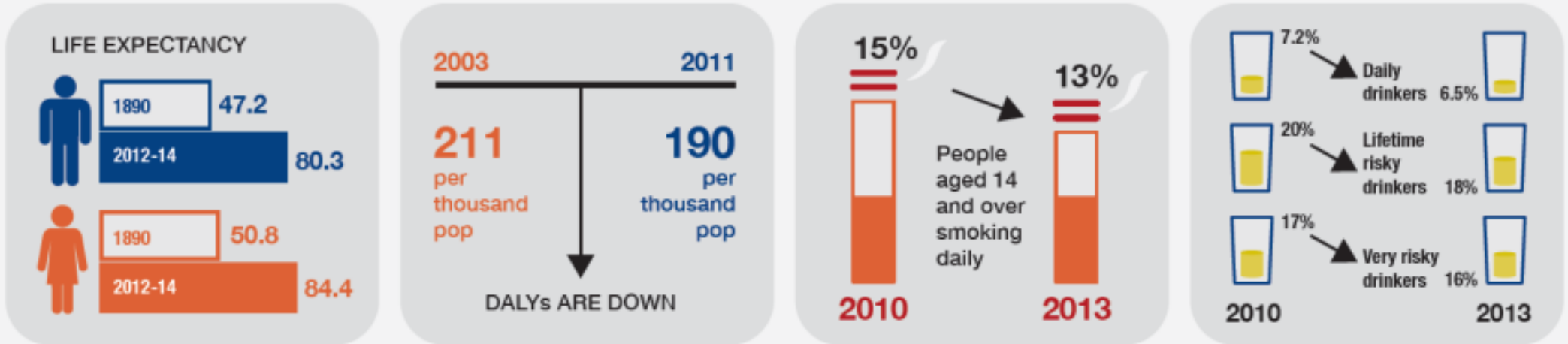
THE AUSTRALIAN HEALTH SYSTEM –  
GOVERNANCE AND FINANCING

# Private Health Insurance

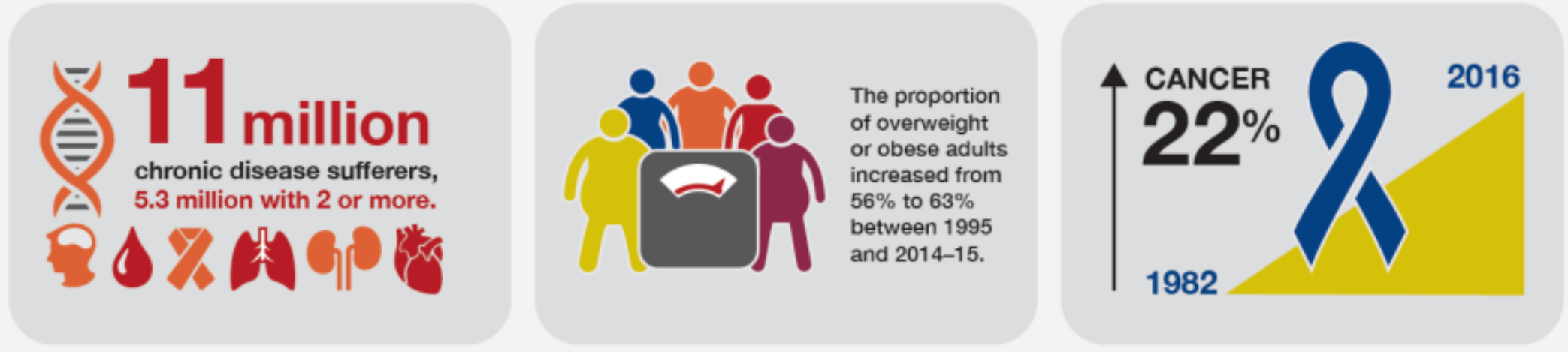
- Private health insurance is a fundamental part of the national health system that **relieves pressure** on public hospitals and **provides choice** to consumers.
  - Private health insurance selected by individual, not employer
  - Tax penalty for those who earn over threshold
- The sustainability of private health insurance is being impacted by:
  - the growth in chronic disease;
  - increasing patient expectations about access to services;
  - the number and range of health services provided;
  - the increasing cost of those services; and
  - an ageing population.



Investment in our system has achieved some great health outcomes.



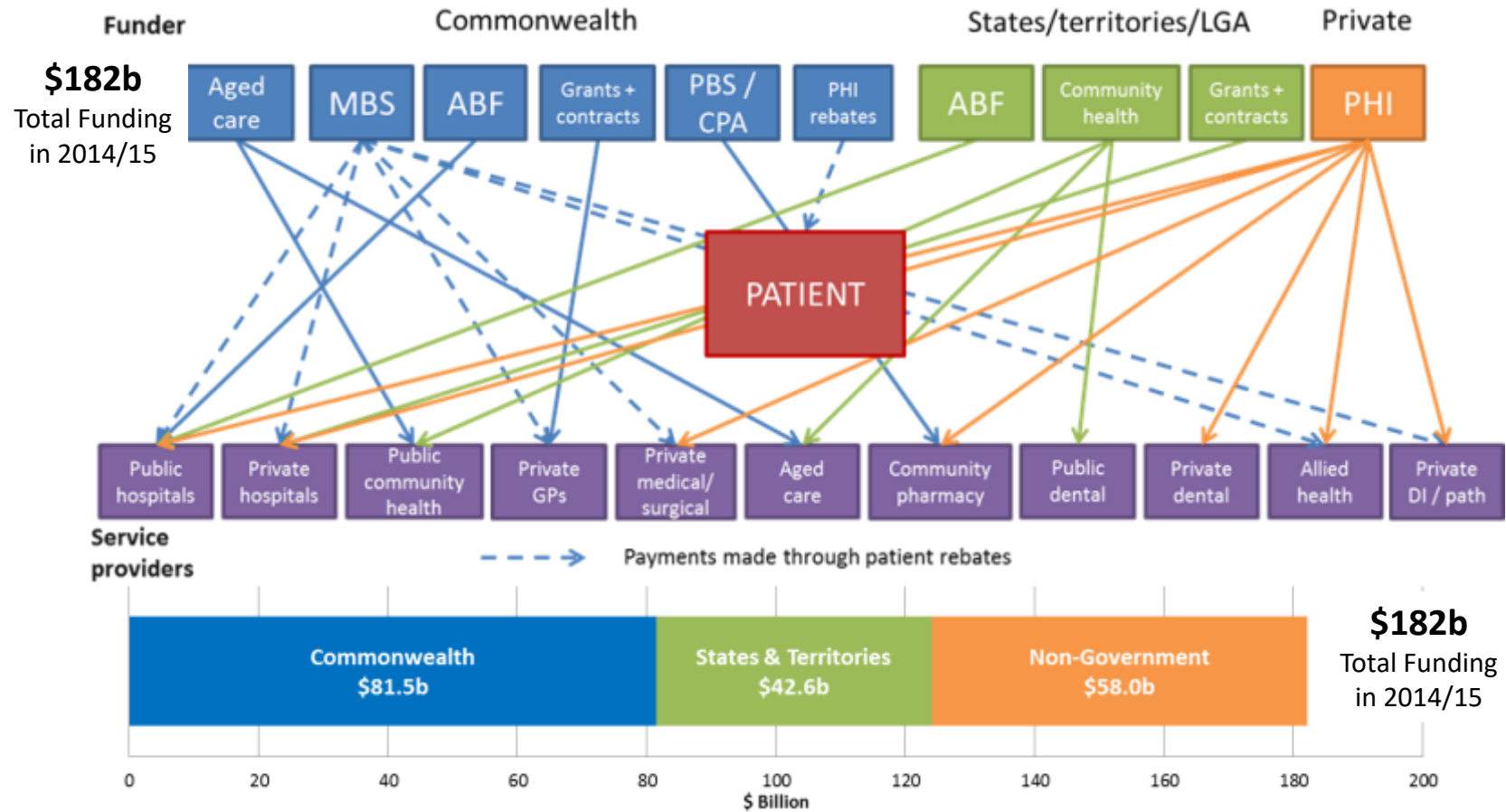
Despite this, we face some big challenges.



Source: AIHW 2016, Australia's health 2016, Australia's health series no. 15.

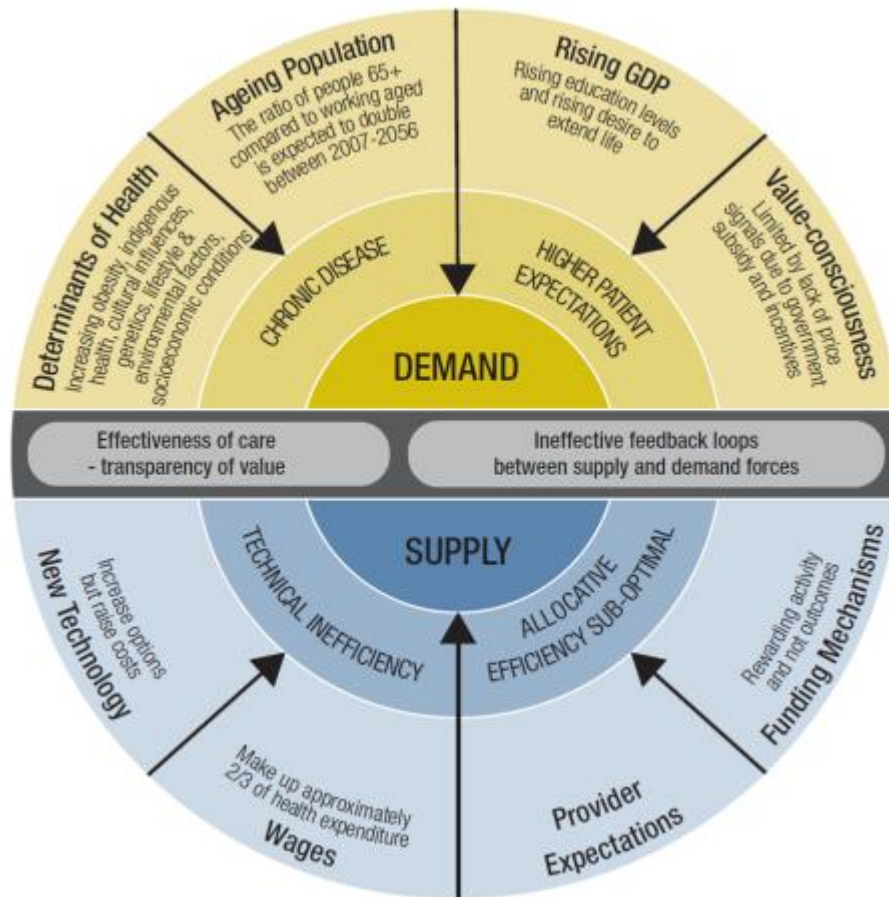


# Complex and fragmented finance system



Source: Derived from AIHW 2014-15 health expenditure data and Aged Care data from the Health Portfolio, Department of Veterans Affairs, ROGS 2016 and ACFA 2016  
 \* Non-Government includes funding by Health Insurance Funds, individual out-of-pocket costs and other sources such as injury compensation insurers.

# Key drivers and dynamics of rising Health and Aged Care expenditure



And there are many pressures on available funding.



**Deteriorating** growth in revenues  
Increasing **demand** driven pressures  
Increasing **unplanned** expenditure  
Unlegislated budget repair measures  
= Australia's AAA credit rating under **pressure**





# Better use of digital technology and information

*An average 13% of appointments in general practice need follow up because of missing information and 10% of GPs waste time every day searching for missing clinical information.*

*Content shared digitally between clinicians and patients means reduced risk of lost information*

*223,000 patients admitted to hospital due to adverse drug events costing \$1.2billion – 2-3% of all hospital admissions.*

*Medicines information available securely online reduces safety risk*

*14% of pathology tests are ordered due to lack of access to patient history.*

*People and clinicians will be able to see results of previous tests*

“The use of digital technologies to deliver healthcare can be an enabler to support the delivery of better patient outcomes. Digital technology does hold great promise but the literature clearly indicates technology is not a solution on its own. Digital innovations must provide benefit and in most cases, complement existing proven models of care.

*Royal Australian College of General Practitioners, submission to National Digital Health Strategy, 2017*



# Data is the New Lifeblood of Life Sciences

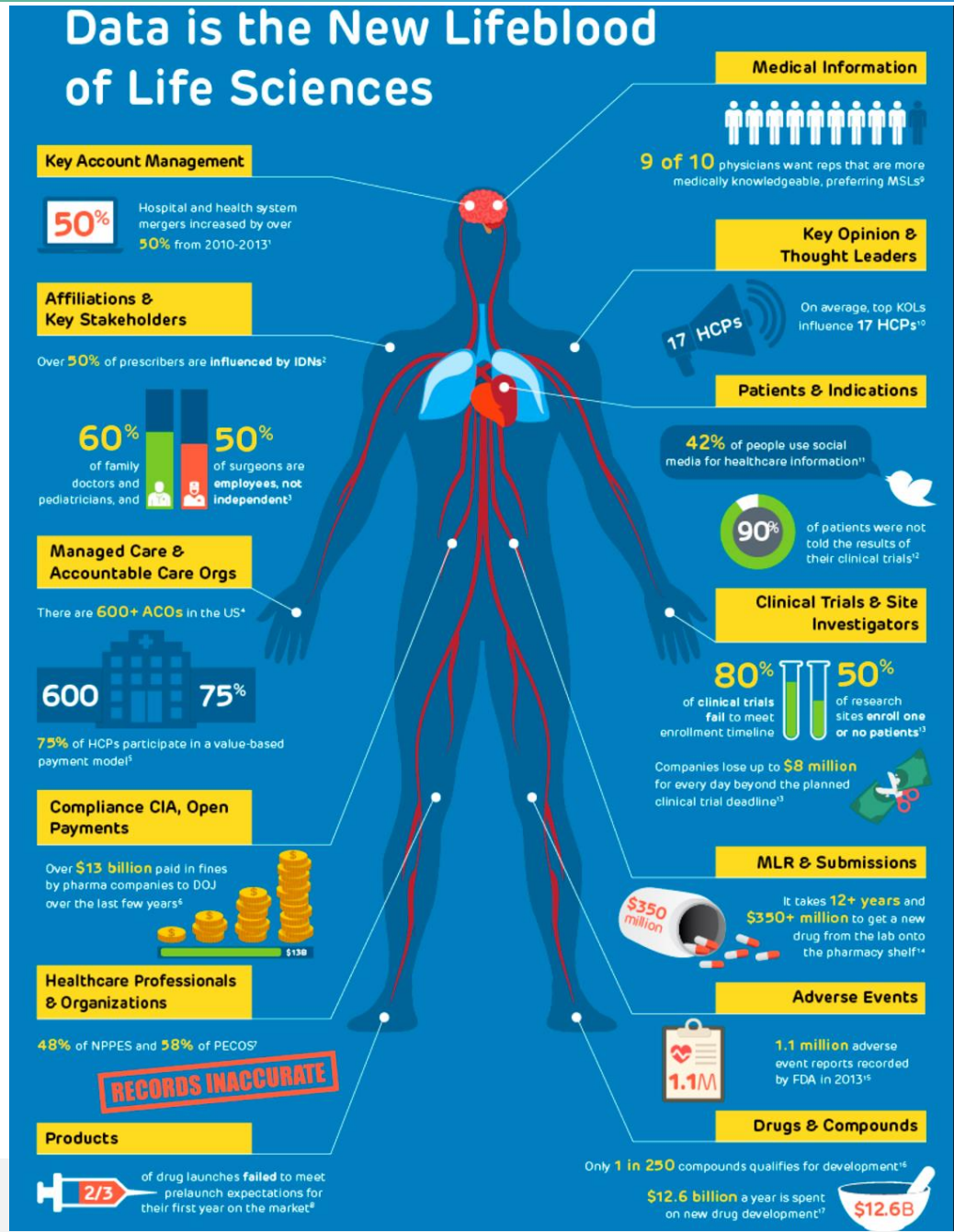


Image courtesy Reltio



# The Australian Digital Health Agency

The ADHA is funded by all Australian Governments. It designs and operates national digital health services and set data standards that:

- Give **consumers more control of their health and care** when they wish it
- **Connect and empower healthcare professionals**
- Promote **Australia's global leadership in digital health and innovation**

The ADHA reports to its Board, appointed by the Minister.

The ADHA is the system operator for the My Health Record, and a number of other clinical information systems and standards, and commenced operations on 1 July 2016.

“ When patients move between care settings, the absence of complete and up-to-date medication data can contribute to instances of care becoming high risk, resulting in medication misadventures and unnecessary hospital readmissions

*Pharmacy Guild of Australia, submission to National Digital Health Strategy 2017*



# My Health Record

An electronic summary of an individual's health information that **can be shared securely online** between the individual and registered healthcare providers involved in their care to support improved decision making and continuity of care.

“ My Health Record is the future of medicine.

*Dr Michael Gannon, President, Australian Medical Association*

“ Prioritise making the My Health Record shareable and used by all health professionals and in all health settings. This fundamental step will have massive benefits to consumers who will be able to trust that their information is being adequately communicated.

*Consumers Health Forum of Australia*



## Key Facts

- Two out of three patients experience a medication error of some sort on admission to hospital
- Empowering people with health care information to support self-management could save \$1,300 to \$7,515 per patient per year.
- Sharing information electronically about tests could reduce unnecessary duplication by approximately 18% and significantly lower hospital re-admission rates.



# The Healthcare Sector is an Eco-System



with many Clinicians (and carers) providing a variety of care



# The Healthcare Sector is an Eco-System

These clinicians generally use IT systems, each with their own local repository of data.



These systems may exchange data directly or through intermediary repositories.

# The Healthcare Sector is an Eco-System

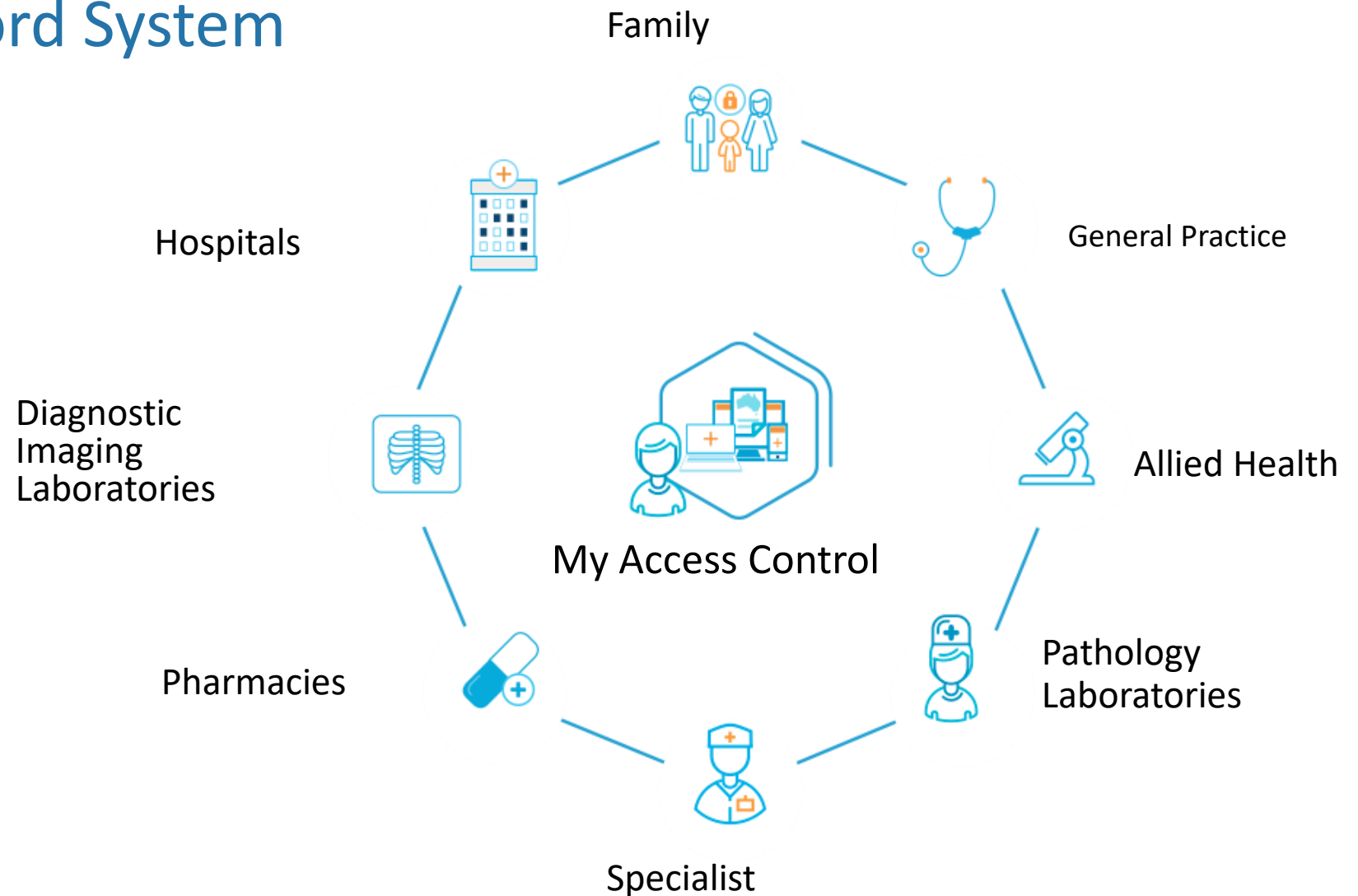


One of these repositories is the My Health Record System

# The My Health Record System

The My Health Record is a secure electronic summary of a patient's health records.

It provides an active online record from different sources that over time will follow patients as they move through Australia's health system.





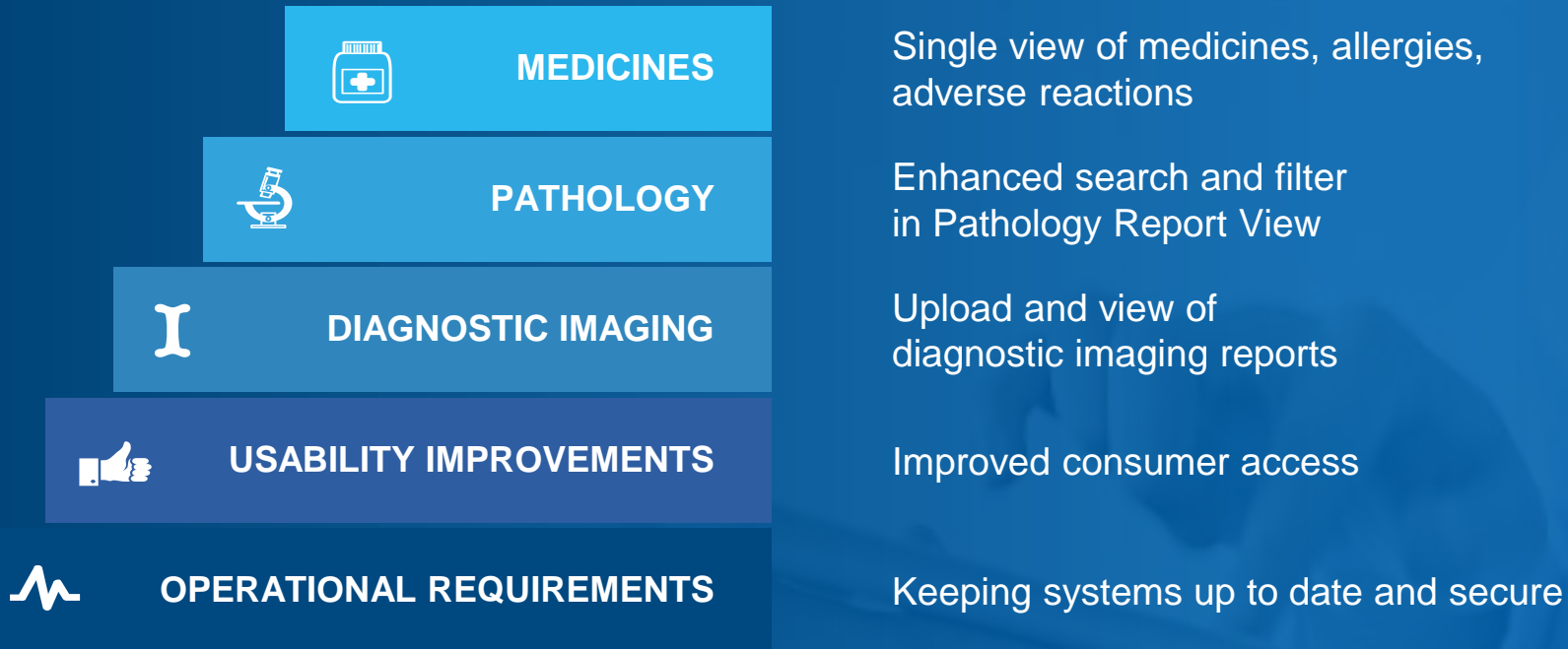
# Privacy and Access: a new standard in patient confidentiality

A person controls who has access to their My Health Record.

- They can choose to decline access to specific documents in their My Health Record.
- They can set up a pin code that will mean only clinicians with permission can access their My Health Record.
- They can subscribe to SMS or email alerts that report in real time when registered provider organisations access their My Health Record.
- In an emergency, a clinician can exercise a ‘break glass’ facility – but instances are carefully monitored and reported to the citizen.
- All instances of access to My Health Record are monitored.



In June, in close collaboration with clinical leaders, like the RACGP, and consumer bodies like the Consumer Health Forum, we will be improving key features of My Health Record...



## GOAL

Support clinicians with their medicines reconciliation

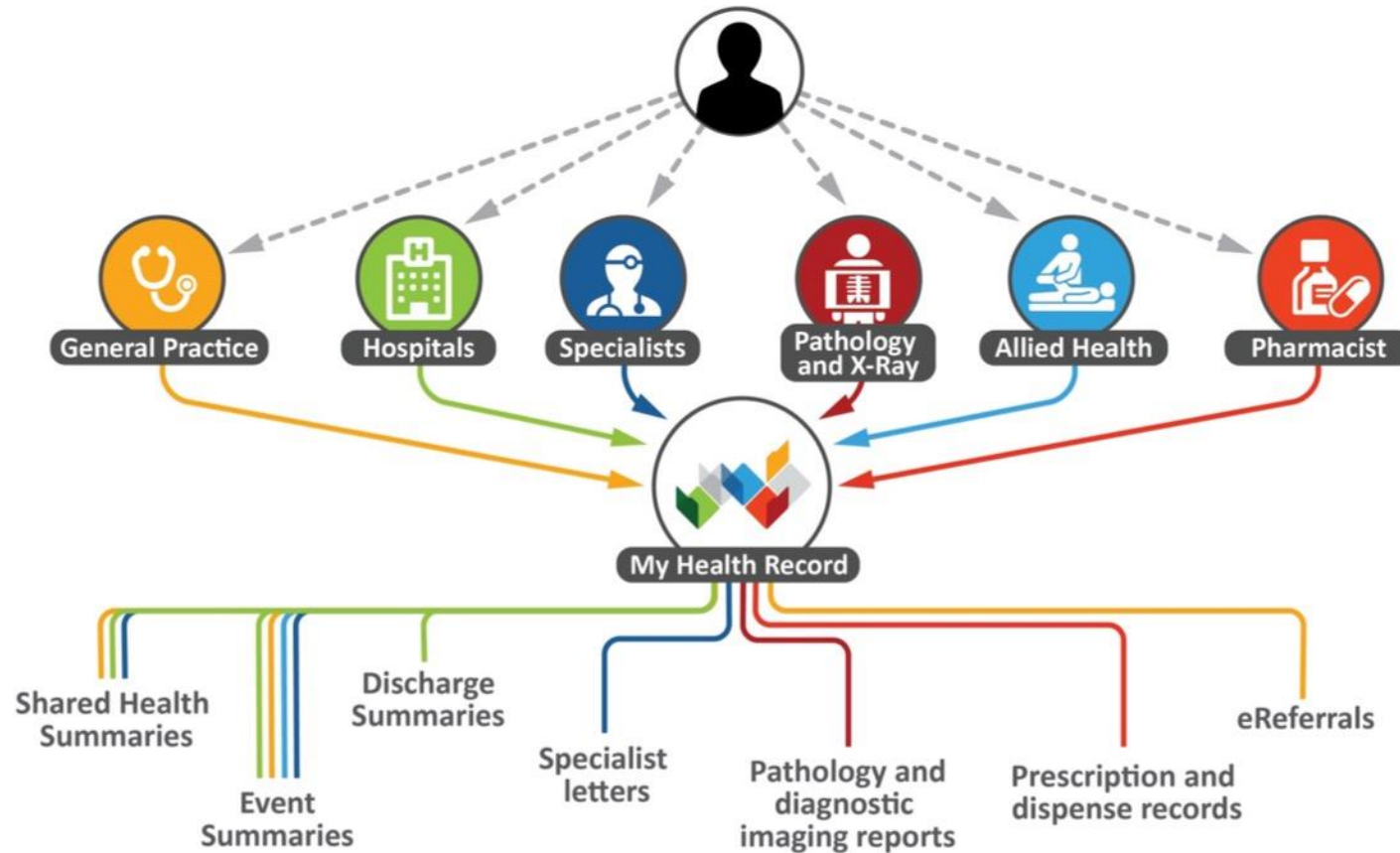
Improve searchability of pathology results in provider portal and local CIS

More complete and timely access to a patient's diagnostic imaging results

Improve success rates for individuals accessing My Health Record the first time



# How does My Health Record work?



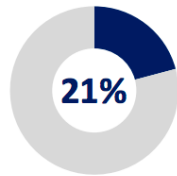
# My Health Record Statistics 13Aug



## My Health Record Weekly Progress Report

### Consumer Registration

**5,088,583**  
Consumer registrations



Australia's total population registered for a My Health Record

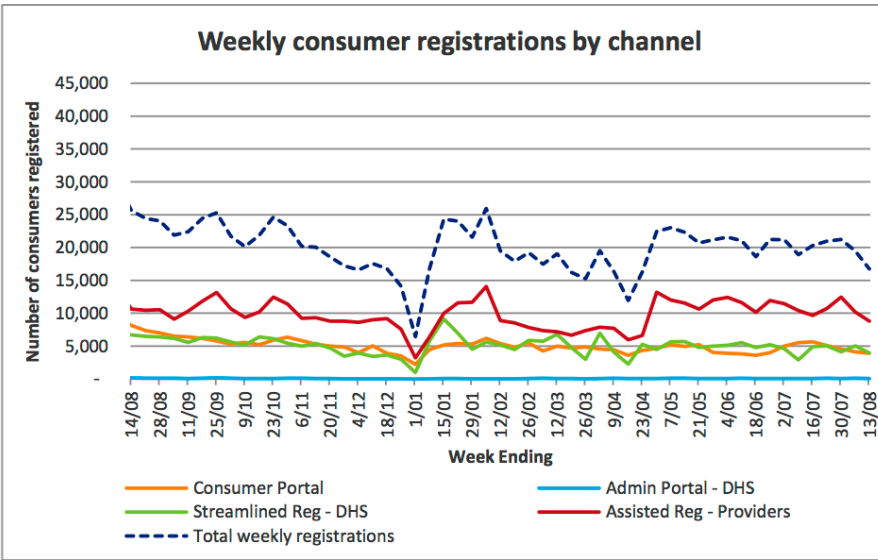
**16,737**  
Consumer registrations in the last week



Decrease when compared with the previous week's consumer registrations

**Key:**

- Consumer Portal* - the internet portal where consumers register themselves online
- Admin Portal - DHS* - used by DHS to register consumers who have contacted DHS by phone/mail/shopfront
- Streamlined Registration - DHS* - face-to-face registration by DHS for simple registrations
- Assisted Registration - Providers* - consumer registrations performed by healthcare providers



### Provider Registration

**10,206** Healthcare provider organisations registered

Organisation Type*	Count	Change
General Practices	6,176	17
Public Hospitals and Health Services	761	0
Private Hospitals and Clinics	166	0
Retail Pharmacies	1,385	3
Aged Care Residential Services	168	0
Other categories of healthcare providers including Allied Health	1,280	4
Organisations with a cancelled registration	270	1

\*Organisation type based on Healthcare Provider Organisation (HPI-O) data, except for Hospital provider data which is based on jurisdictional reported facilities that are connected to the My Health Record system.



# How My Health Record can transform quality, experience & value

## Improving Medication Safety

A significant proportion of medication errors that lead to harmful Adverse Drug Events (ADE) may be preventable through increased accessibility to patient information, such as that provided by My Health Record.

- 2% to 3% of hospital admissions are caused by medication errors (230,000 per year at a cost of \$1.2 billion annually)
- 2 of every 3 patients experience a medication error on admission
- Over 3% of people staying in hospital experienced an ADE as a cause of or during admission in an Australian study – over 10% of these were considered life threatening
- 12 to 13% of discharge summaries contain medication errors (2 per patient)
- Estimated 50% of ADEs could be avoidable with My Health Record

## Access to information for people and their care providers

Access to information via My Health Record will enable self-management and reduce clinician's time necessary to perform several information-led tasks, freeing up productivity for more critical activities.

- Enabling self-management will save \$1,300 to \$7,515 per patient per year, and significantly lower hospital re-admission rates
- Over 10% of GPs waste time every day unsuccessfully searching for missing clinical information
- 13% of visits with information missing in Primary Care
- 57% missing information is actually available in another system



## Reducing Unnecessary Test Duplication

The savings resulting from improved sharing of investigation results between healthcare providers enabled through the My Health Record

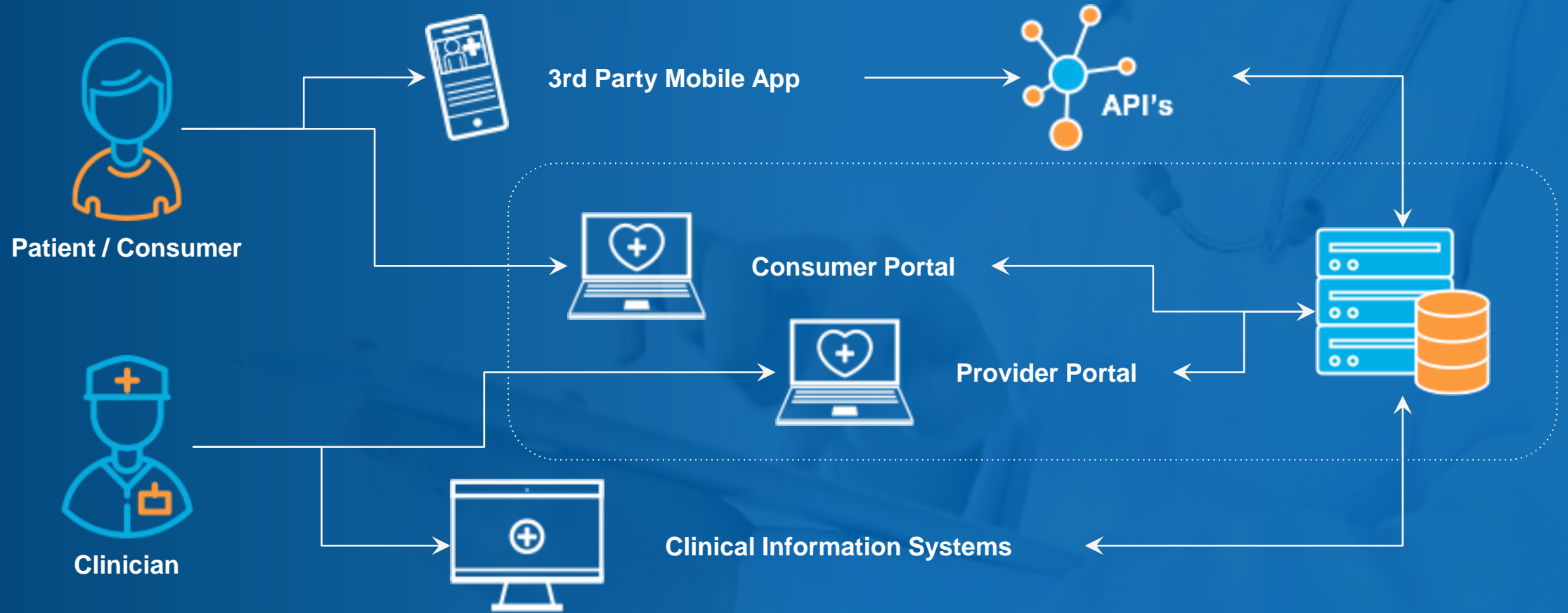
- 18% reduction in test duplication using an EHR
- Estimated 10% of pathology tests avoidable through My Health Record
- Estimated 10% of Diagnostic images avoidable through My Health Record



Note: Statistics from My Health Record system Return to Government Benefits Model.



# Interfaces of the My Health Record





LSFE  
73:00  
73:00  
vancouver 2010

0  
0

vancouver 2010

vancouver

Kampala  
SWE

Kampala  
SWE

SWE  
SWE

Balance Plus

# Telehealth in Australia





# Telehealth in Australia

- Australian geography
  - Rural and remote communities, challenges to accessing care
  - Availability of health professionals
  - Disparities in health outcomes.
- Progress has been made across State and Commonwealth levels

THINK ABOUT RURAL HEALTH WHEN YOU VOTE

**REMOTE HEALTH**

Jane lives in a major city

Jill lives in a remote community

JILL'S CHANCE OF DEVELOPING HEART DISEASE is **20% HIGHER** TYPE 2 DIABETES

To get the best possible outcomes they will need a range of health services but Jill will be affected by the **lack of services** in remote Australia.

CITIES	HEALTH PROVIDERS per 100,000	REMOTE
405	Doctors	249
95	Pharmacists	56
14	Dietitians	7
16	Podiatrists	5

Death rates for remote Australians are **40% HIGHER** for coronary heart disease and **3X HIGHER** for type 2 diabetes.

The deficit in **medicare** spending in remote Australia is **\$193.7m** per year

**THESE POOR OUTCOMES ARE PREVENTABLE**

**WHAT WE NEED**

- ✓ Guaranteed funding over the long term, quarantined from cuts
- ✓ Flexible funding to allow local solutions to local needs
- ✓ Commonwealth and State Governments to work together to provide a single funding pool for very small, remote communities.

**WHAT CAN YOU DO?**

- ✓ Find out what the major parties and your local candidates are saying and doing to support remote health care before you vote on 2 July.
- ✓ Send this information to your friends and family. Spread the word!
- ✓ If your community is having a town hall meeting, get along and raise the issue. The more people that speak up, the more powerful we are.

# Medicare Funding for telehealth

- Public funding is available for:
    - Patients and specialists that are 15 kms apart by road at the time of the video consultation, **or**
    - Residents of eligible Residential Aged Care Facilities
    - Patients of eligible Aboriginal Medical Services.
- Quarterly statistics on telehealth for Medicare show that:
- over 475,545 Medicare telehealth services provided to over 144,400 patients by over 13,815 providers.
  - 4,731 specialists have provided telehealth services.



## Telehealth – research trials

- The Australian CSIRO National Telehealth Trial was conducted across six sites, in five states to investigate the healthcare and socioeconomic outcomes of deploying telehealth to monitor chronic diseases. Early results showed that:
  - Use of primary health care services dropped by 24%.
  - Unscheduled hospital admissions fell by 36% and length of hospital stay reduced 42%.
  - 83% user acceptance of telehealth and 89% of clinicians would recommend it to other patients.



# RDNS and Telehealth

## Medicines Management Video Project (BEIP)

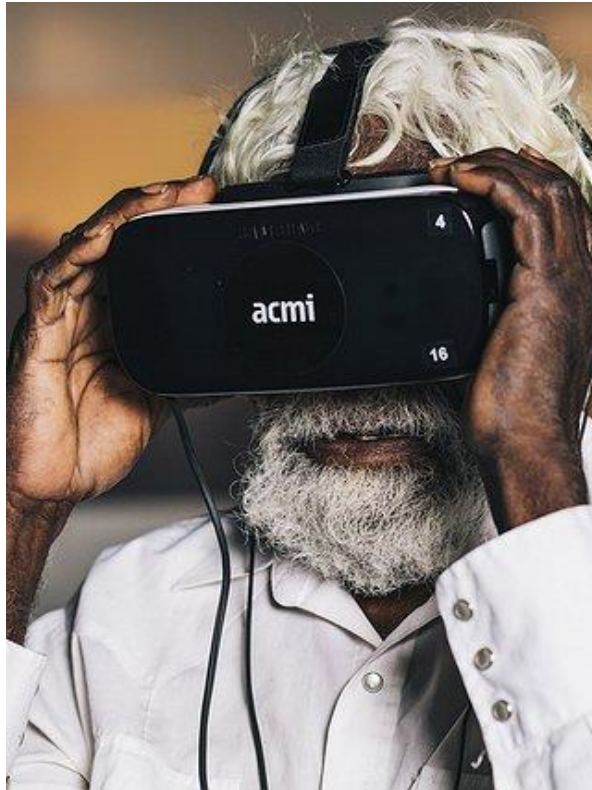


# Connecting Indigenous Communities

- Aged Care and Palliative support
- Use of immersive video
- Strong connection to the land
- Enable communities to stay together while still enabling acute/palliative care delivery for patient



# Connecting Indigenous Communities



# VR for spinal rehabilitation

[https://www.facebook.com/ABCCatalyst/videos/1892647084082815/?hc\\_ref=ARTb0qF6Dsvb79p5-W4oQuQwcdOFKm2w2rMPAfz9qiUTZPB3siFcu2YSgBNJ-UOS2Hk](https://www.facebook.com/ABCCatalyst/videos/1892647084082815/?hc_ref=ARTb0qF6Dsvb79p5-W4oQuQwcdOFKm2w2rMPAfz9qiUTZPB3siFcu2YSgBNJ-UOS2Hk)



# The National Digital Health Strategy: consultation confirms citizens want digital access to health



Australians value our **high quality** healthcare practitioners & workers, and generally experience **affordable & accessible** care

OVER  
65%

of respondents say the Australian healthcare system is difficult to navigate. People want to know the cost, quality, & availability of services

OVER  
45%

of respondents had difficulty accessing healthcare when they needed it. Top reasons given: Cost, Location, Couldn't get Appointment



More than **four times** as many people want to access their personal health information on their smartphone than do currently

The **top three** activities people want to be able to do on their mobile device

Manage their Medications

Track their Health

Request refill Prescriptions





# National Digital Health Strategy – What People Told Us



Support me in making the right healthcare choices, and provide me with options



Help all the people who care for me to understand me, and together, provide safe and personalised care



Create an environment where my healthcare providers and I can use and benefit from innovative technologies



Preserve my trust in the healthcare system and protect my rights



# Priority areas for delivery to 2022

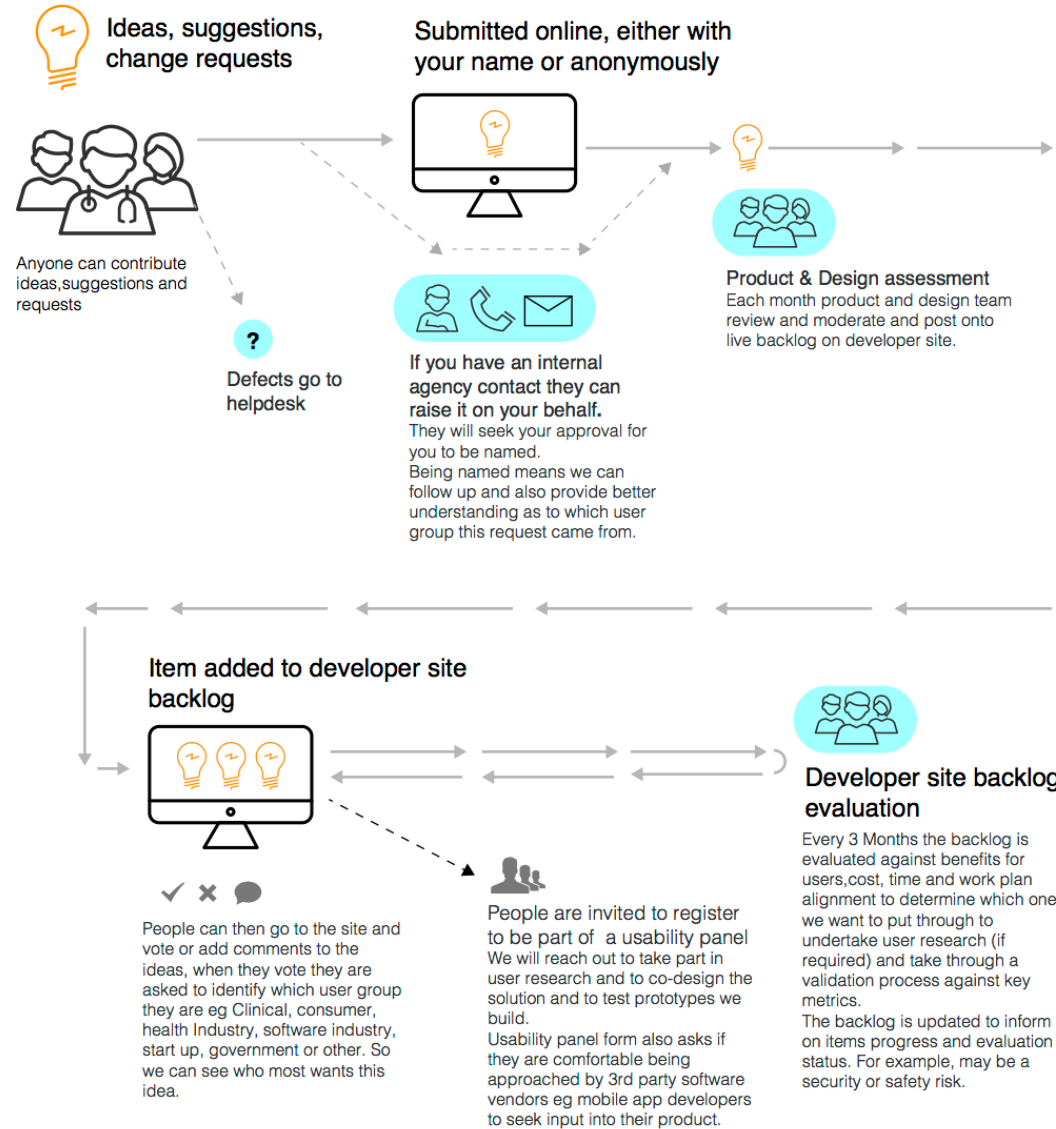
MY HEALTH RECORD	Health information that is available whenever and wherever it is needed
SECURE MESSAGING	Health information that can be exchanged securely
INTEROPERABILITY AND DATA QUALITY	High-quality data with a commonly understood meaning that can be used with confidence
MEDICATION SAFETY	Better availability & access to prescriptions & medicines information
ENHANCE MODELS OF CARE	Digitally-enabled models of care that drive improved accessibility, quality, safety and efficiency
WORKFORCE EDUCATION	A workforce confidently using digital health technologies to deliver health and care
DRIVE INNOVATION	A thriving digital health industry delivering world-class innovation



# Innovation Agenda

- Invest in developing a robust national infrastructure to enable data quality standards and interoperability
- CDA to FHIR, migration to support atomic data, dual model required
- Develop a health innovation exchange to enable evidence and de-identified data of actual usage to drive innovation outcomes
- Drive change in “pilottitis” to support scale up and look and learn before you build and repeat
- Transform developer support tools and services to enable innovation





# Codesign



# TODAY

**1 in 10** people lose their child's health and development book

Only **25%** of youth facing **mental health** problems seek care

**3-6 days**  
Average wait of **3-6 days** to see a GP

**\$1.2B**  
**223,000** admitted to hospital due to **adverse drug event** costing **\$1.2 billion**

**18%**  
**18% of aged care residents** experienced a missed or **significantly delayed dose of their medicine** within 24 hours of discharge from Hospital

**15-20 visits**  
A healthy pregnancy usually includes **15-20** separate encounters with health care services

**x5**  
Hospital admission for **anaphylaxis** has **increased 5X** in last decade in **1-4yr olds**

**11%**  
**11% of women missed contraceptive pills** due to difficulty accessing GP for repeat

**40%**  
Death rates for remote Australians are **40% higher** for **coronary heart disease**

**70%**  
**70% of people want to die** at home, yet only about **14% do so**

**8%**  
**8% do not see specialist** due to lack of **cost information**

**14%**  
**14% of pathology tests** are ordered due to lack of access to patients history

**Prebirth**

**Baby**

**Childhood**

**Youth**

**Young Adult**

**Adult**

**Older Adult**

**Senior**

**Aged Care**

**End of Life**

**+**  
Content shared with My Health Record means reduced risk of lost information

**+**  
Allergy alerts integrated within My Health Record

**+**  
Ability to request scripts safely and securely online

**\$**  
Ability to compare costs and availability of specialists online

**+**  
Medicines information available via My Health Record reduces safety risk

**!**  
Notifications, alerts, discharge and transfer summaries integrated into the system to ensure consistent information

**+**  
Child Health mobile app replaces paper book

**+**  
Increased availability of online tools to support mental health

**+**  
Same day online consultation with chosen provider

**+**  
Digital tools make it easier to access services remotely

**+**  
People and their clinicians will be able to see results of previous tests

**+**  
Access to Advance Care Directive means less invasive unwanted procedures and average **\$5,400 saving** per patient

**REFERENCE LIST:**  
**Prebirth - Today**  
[http://www.materonline.org.au/getattachment/Services/Maternity/Health-Professionals-Information/Guidelines-and-Policies/MMH\\_AntenatalAppointmentSchedule.pdf](http://www.materonline.org.au/getattachment/Services/Maternity/Health-Professionals-Information/Guidelines-and-Policies/MMH_AntenatalAppointmentSchedule.pdf)  
**Baby**  
<http://www.abs.gov.au/ausstats/55cabs@.nsf/08666A9ADD480156CCA25792F001618640?OpenDocument>  
<https://www.medicalsearch.com.au/new-health-seeks-opinions-for-its-latest-blue-book-review/#/19016y>  
**Childhood**  
[http://www.jaonline.org.au/article/S0091-6749\(15\)00702-2/fulltext](http://www.jaonline.org.au/article/S0091-6749(15)00702-2/fulltext)  
**Youth**  
<http://www.mindframe-media.info/for-media/reporting-mental-illness-facts-and-stats/#CSY>

**Young Adult**  
<http://online.libraries.wiley.com/doi/10.1016/j.jmwh.2005.01.011/>  
**Adult**  
<http://www.ruralhealth.org.au/infographics>  
**Senior**  
 Early cost and safety benefits of an inpatient electronic health record  
 Zlabek et al  
 J Am Med Inform Assoc (2011) 18 (2): 169-172  
**Aged Care**  
 Does facilitated Advance Care Planning reduce the costs of care near the end of life?  
 Systematic review and ethical considerations  
 Corinna Klingler J, Jürgen In der Schmitzen2 and Georg Marckmann1  
**End of Life / Palliative**  
<https://gratan.edu.au/wp-content/uploads/2014/09/815-dying-well.pdf>

# FUTURE



**Australian Government**  
**Australian Digital Health Agency**



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## Other areas:

- Personalised medicine and care
- Genomics
- Health apps evaluation framework
- Benefits measurement
- Assisted Artificial Intelligence
- Shift to activity based funding
- Use of personal care navigators

## Thank you

Website:

[www.digitalhealth.gov.au](http://www.digitalhealth.gov.au)

Twitter:

<https://twitter.com/AuDigitalHealth>