DIGITAL HEALTH WORK PROGRAMME 2020

Design Workshop

Strategic Conversation Evolution Tracker

22-23 March 2016
Auckland
PARTICIPANTS

Participants


Byron Phillips  David Bassett  Andrew Slater  Brian Yow  Shaun Costello  Matthew Valentine  Will Reedy  Andrew Cave  Jodi Mitchell  Andrew Bowers  Stephen Miller


Bev Nicolls  Kate Reid  Judy Garriock  Peter Gow  Will Reedy  Patrick Ng  Greg Stevens  Andrew Cave  Greg Clarke  Stephen Child

David Hay  Anna Hoquard  Sharron Jones  Stephen Child  Jayden MacRae  Mark Limber  David Ryan  Karl Cole  Joshua Chamberlain  Marc Gutenstein  Madeleine Matthews  Simon Ross

Paul Lambert  John Fountain  Martin Wilson  Rob Ticehurst  Sasha Kljakovic  Rob Ticehurst

Peter Jordan  Joshua Chamberlain  Mark Limber  Madeleine Matthews  Chris Hendry

Ross Boswell  Stuart Bloomfield  Will Reedy  Jodi Mitchell

Simon Ross  Will Reedy  David Bassett  Andrew Slater

Ministry of Health Hosts

ThinkPlace Facilitators

Jim Scully  Ben McCarthy  Cam Berry  Ben Harris
Graeme Osborne, Director, Ministry of Health introduced the two days.

The Ministry of Health is looking forward to the next five years of our Health IT Programme, with its four areas of focus: electronic health records (EHR), digital hospitals, health data, and preventative care.

The purpose of this workshop is to build on our joint efforts to date and refine our collective thinking and design for the single EHR.

Our success measures for this session are:

• To enable us to refine the design for the single EHR
• To leverage participants’ experience and expertise to crystallise the strategic direction of the new programme
• To have a productive, human-centred conversation about what is desirable, viable and possible in this space
• To meet the challenge posed at the start of the workshop.

Graeme introduced Giles Southwell, Acting Chief Technology and Digital Services Officer, to provide us with the Ministry’s strategic context.

The five strategic themes developed in 2007 still hold true today. Much has been achieved but there is still a lot to do. We still have the challenges of an aging population, workforce shortage, chronic diseases and unequal access to funding.

The Ministry is on the move with different ways of working across the system. The Ministry is also about to launch a new Health Strategy with five focus areas:

People powered – Practical, evidence-based healthcare. People at the centre, empowered to take greater control and have better access to healthcare (such as wearable devices).

Closer to home – Health care provision and services as close to the person as possible. Mobile vans, outreach, and using technology to identify and treat health issues early, “getting it right from the start” so people are safe and well in their own homes.

Value and high performance – Failures in healthcare are costly in human terms. Focus on results, health behaviours, better and more accessible information which allows us to communicate more effectively, to provide higher value services.

Examples of what could help us get there:

- Robotics/breakthroughs/telehealth/EHR
- Regular use of patient portals
- Better understanding of the social investment approach – providing better value to the taxpayer

One team – Recognising that we work for different organisations, but we’re the same team with the same goals to offer one service to the patient.

Smart system – Technology will play an increasing role; consistent, connected, useful data to join everything together and make continual improvements.
OUR CHALLENGE  And the design principles that will guide us

Sadhana Maraj, Manager Health IT Engagement, set the challenge (on behalf of Murray Milner) for the workshop: to articulate success from the experience view of consumers, clinicians, the health system and as an investment decision. These would be reported back on to a panel at the end of the two day workshop.

During the December discovery workshop, we created a set of principles which would guide our efforts to deliver the future experience. We revisited these principles to ensure they continue to inform our work.

<table>
<thead>
<tr>
<th></th>
<th>Easy to use</th>
<th>Failsafe</th>
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<tbody>
<tr>
<td>1</td>
<td>Intuitive, accessible and simple</td>
<td>Always available, reliable, robust, resilient</td>
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<tr>
<td>2</td>
<td>Future proofed</td>
<td>Ubiquitous</td>
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<tr>
<td></td>
<td>Having the flexibility to be added to or adapted as technology evolves</td>
<td>Available everywhere, and responsive across devices, disciplines and geography</td>
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<tr>
<td>3</td>
<td>Visible orchestration</td>
<td>Equitable</td>
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<tr>
<td></td>
<td>Clear and meaningful visual feedback of data, progress and activity</td>
<td>Acts in service of reducing health inequalities, overcoming the digital divide, and affordable</td>
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<tr>
<td>4</td>
<td>Private and secure</td>
<td>Intelligent/smart;</td>
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<tr>
<td></td>
<td></td>
<td>Decision support systems facilitate better decision making from clinicians and patients</td>
</tr>
<tr>
<td>5</td>
<td>Citizen centric</td>
<td>Accurate and efficient</td>
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<tr>
<td></td>
<td>Designed from a user’s (customers and clinicians) point of view, not the platform</td>
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Flow for our two-day session

Day 1
- Intent and context
- Stream Updates
- Pre/During/Post Interactions

Day 2
- Design the future experience
- Key shifts & possible functionality
- Narratives

Diverge

Converge
Marc Gutenstein presented on behalf of the Health Professionals stream

- This is not just an opportunity to re-create tools, it is a chance to redevelop the way we work
- New digital innovation will allow us to re-examine and transform work as well as create new tools
- We need to:
  - Build an EHR around the patient/consumer
  - Develop workflow across location and discipline boundaries
  - Reframe work around clinical pathways and patient journeys
  - Integrate decision support tools
  - Interact with patient portals
  - Improve professional communication using mobile and telehealth
  - Create resource, education and business tools
  - Collect data for analytics.
- We must explicitly manage change with dedicated resources, or good innovation may not succeed in a clinical arena that spans different disciplines and different generations
- Which data elements should be considered core as the most important for health professionals across all disciplines to gain an accurate understanding of their patients?
- User-Centred design can not only improve clinical workflow, but also assist in change management by making work genuinely easier and more productive, and therefore new tools compelling to use.
- Practice what we preach! Collaborative work.

Judy Garriock presented on behalf of the Consumers stream

- Where does dying well fit in the EHR stream?
- Our communication strategy must be broad
- Key considerations are security, privacy and inclusion/whānau and caregivers
- How does a health record evolve? (especially ownership)
- How do we decide when an adolescent owns their health record?
- Do we represent all groups (rural, minorities etc)?
- Where does the informed consent come from in the system?
- A key principle needs to be “Nothing about us, without us”
- How do we bring along those people who are still paper-based?
- How are people recognised as people, not as an illness or disease?

Tony Cooke presented on behalf of the Digital Hospitals stream

- What does a standardised operating model look like in the digital world?
- The four settings of care:
  - Home, self-care and community
  - Healthcare home (primary care), community teams, NGOs
  - District hospitals and specialist services
  - Specialised hospitals and sub specialist teams
- How people flow through the healthcare system
- Points of care coordination for complex patients
- The patient journey and how it is tracked through the system of care
- How queues are managed for services across the system
- The “clusters” of information required in each setting
- Points of coordination are key, how can we accurately know what’s happening next?
- How can human beings not be lost in a data-driven approach?
Chris Hendry presented on behalf of the Informatics stream

- Creating a network of informatics professionals who set high standards and support success
- Drive ‘step changes’ in clinical and operational performance improvement and measure the impact of changing models of care
- Enable better use of information to support an adaptive learning health system
- Health informatics puts planning into practice
- Informatics understands the complexity, culture and workflow in which technology is situated
- If early adopters are experienced, issues can be identified and fixed earlier
- Information to enable an adaptive system.

Alastair Kenworthy presented on behalf of the Architecture and Standards stream

- Eight topic areas have been developed – what are the technical underpinnings of an EHR?
- Providing a source of truth for core clinical information
- Centred on an actual system
- Documents are streams of information
- EHR supports an ecosystem of apps
- We need to learn from social and technological understanding
- Good regulatory environment to support EHR development
- There are no analogous EHR examples out there
- Areas to focus on include problems/medications/allergies and adverse reactions

Principles
- Value what we already have
- Enable new levels of care coordination and clinical decision support
- It’s about getting from here to there
- Our environment and ability to work together make us well placed to produce something world class.

Mark Anderson presented on behalf of the Vendors and Integration stream

- Procurement and Contracting Capability Maturity Models
  - We need new models for contracting in unknown spaces
  - Do we have one large contractor or alliance contracts?
  - How do we manage public/private partnerships?
- Contract Governance and Risk/Reward. Governance to deliver EHR will need a high level of maturity
- Systemic and Sustained Innovation. How do we deliver innovation systemically? We need systemic innovation, not indulged experimentation
- Intellectual Property Model
- Integration across levels and types
- How do we avoid a blame culture when working collaboratively?
- It’s a space that’s enabling people to do completely new things. Are we mature enough to handle it?
ADDITIONAL UPDATE

Telehealth

Paul Lambert presented on the National Telehealth Service initiative

- We have interest in the intersection between acute care and community health
- We’re doing a pilot with Counties Manukau around community care co-ordination
- We’d like to bring discharge plans to life
  - more than just a discharge summary
  - a plan with tasks for different providers to complete
  - the ability to update and evolve
  - information flow back to acute and others
  - vendor agnostic – national standards rather than a one-make solution
- We need to consider the National vs Regional focus
- Self-care creates more capacity in the system
- Shifting administration away from nursing staff
- EHR focuses on the patient journey and continuity of care
- How do we co-ordinate multiple providers over one plan?
- Materially changing patient outcomes to create a business case for EHR
- What can we fit in a Bill English Budget?
Edge Talks

*Tuesday pm*
- **David Meates**, Canterbury DHB CEO
- **Nigel Murray**, Waikato DHB CEO

*Wednesday am*
- **Ailsa Claire**, Auckland DHB CEO
David spoke about developing a digital health record in Canterbury and the West Coast. Here are a few of his key points.

Some of you will enable a future, some of you will get in the way.

New Zealand shows its insecurity by looking overseas for its solutions. We generally have most of the solutions here within the country.

580,000 people have access to a shared health record in the South Island.

“It strikes me how poor we are at articulating our goals.”

The purpose of our health systems is to keep people well, healthy and supported in their own context. As health systems we constrain ourselves with a narrow view of health.

Often people don’t need to go anywhere else other than their home, where they have the right level of support.

Too often IT is framed up as a cost, so we need to demonstrate how IT can enable health outcomes. IT has an important role but not in the traditional ways, and IT business cases are often based in fantasy.

We want to be partnered with, for best outcomes, not sold to, or told “what we need.”

As we move into the digital environment there will be a use for all our data and information.

We don’t want provider-centric patient portals. We want consumers leading the creation of our patient portals, and challenging us.

I never look at IT as a cost, I look at what the benefit realisation is and what the new value proposition is.
Nigel spoke about making transformational change. Here are a few of his key points.

We have lost the meaning of innovation. We’ve been seduced by incremental reform around the edges, and told this is transformational. We’ve spent hundreds of thousands of dollars getting here and we’re still making incremental improvements.

Other industries have completely reformed themselves, such as the banking, airline and shopping industries. This disruptive change has been due to customer demand. What is it that we’re going to do that is truly transformational?

If you want to design a system that confines innovation, you would design the one we have today.

No-one’s really willing to be inspirational. It’s not about IT, it’s about service reform and change.

We need to take the intelligence in the room and use it so we don’t have customs and practice of the past. We need to bring in the modern, highly flexible, customer-centric systems that aren’t tied to legacy.

Why is the medical world resisting the ‘Uberisation’ of the industry? Let’s ‘Uberise’ and break through the manacles of vested interest in the industry.

New Zealanders waiting for specialist appointments are paying online to get advice from overseas specialists who are not licensed in New Zealand. But the information is out there and patients are looking for it.

Patients and citizens, the power is in your hands.
Ailsa spoke about experiences with similar work overseas, the considerations we should make, and lessons we could learn. Here are a few of her key points.

This is not an informatics project, EHR is about the patients – unless we make some national direction, informatics will be underinvested.

It’s not the informatics program we use it’s whether the organisation can implement it.

The information we are sharing across the health system at the moment is causing harm. An EHR is about safety.

The best way to support clinical practice is to enable reflective practice and at the moment we can’t do that.

Patients in control use less services.

The current system is like a spiders web where you don’t know where the connections go. The future system needs to be accessible anytime, anywhere.

What does an investment in interoperability look like?

What information is needed, is it high touch or low touch? What does it mean for a patient shifting to a rural environment?

Are we capable of delivering what we’re planning to do?

Where are the organisational readiness assessments and clinical buy-in?

What is our development vs implementation focus?

We need to see it, test it, evaluate it.

Long term partnering with vendors – we need to challenge their reliability over time.

Using an internationally used patient administration system (PAS) we can create a wider community. We can enable everyone, wherever they are in the system to make the best decisions possible.

For a PAS, what could be core, national, and what could be specific to the Northern region?

PAS implementation affects every clinical and admin process, that’s a big ask for New Zealand.
EDGE TALKS  What did these spark for you?

- Clearing up the confusion between an EHR & an EMR
- How do we create a national innovative dynamic?
- What’s the connection across local, regional, national levels & the shared understanding we need to align around?
- If we truly value patient & clinician time, how do we remove all waste & frustration?
- Do we evolve a product, or get it perfect first?

Q: How do we manage the complexity of 1400 apps?

- Systems & attitudes are hard to change, but if they don’t consumers will change things for us.

REALITY CHECK

Q: Have we defined the problem?

- Succinctly phrased.

What’s going to galvanise us?

- One might want to see & test it, but what if it doesn’t exist?
- What are we going to market for?
- Single product?
- I, O, T?
- Evolution?

Partnering more important than a one-off.

Invest in data
- Quality
- Centralisation
- So we can "Uber-ise"

"We can’t just work within region (child in Tahiti; travelling to Spain)"

Common core is not just the data, but also functionality...

Q: Why is EHR overloaded as a concept of a system? What do we want it to do?

"Common closing this loop"

Q: What do we do with MINISTRY OF HEALTH | DIGITAL WORKSHOP 2020 – DESIGN WORKSHOP  |  22-23 MARCH 2016
### Change Aspirations and the Problems to Overcome

On Day 1 we asked participants to define the aspiration or essence of change for their stream.

On day two we asked each stream to define the problem that would need to be overcome, together and within work streams.

For the purposes of this tracker we have connected this thinking.

<table>
<thead>
<tr>
<th>Stream</th>
<th>Problem</th>
<th>Aspiration</th>
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</thead>
<tbody>
<tr>
<td><strong>Health Professionals</strong></td>
<td>“I don’t know who you are”</td>
<td>A tangible win that will generate support from stakeholders</td>
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<tr>
<td><strong>Consumers</strong></td>
<td>Unwell today, doctor yesterday, worse today – better today</td>
<td>Vendor/user relationship taking that dependency away, leadership at a high level who can give direction. Government level with authority.</td>
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<tr>
<td><strong>Digital Hospital</strong></td>
<td>Inefficient sharing = patient harm, system wastage &gt; poor outcomes</td>
<td>How are we going to be smart as a country and deliver an EHR within budget?</td>
</tr>
<tr>
<td><strong>Informatics Profession</strong></td>
<td>Copious unstructured data confuses, overwhelms, and hides gaps</td>
<td>Importance of setting expectations, if we’re thinking about change we need to bridge the digital divide.</td>
</tr>
<tr>
<td><strong>Architecture and Standards</strong></td>
<td>Siloed data creates waste and costs lives</td>
<td>Define the lessons of our program</td>
</tr>
<tr>
<td><strong>Vendors and Integration</strong></td>
<td>Information is not shared across the entirety of a person’s journey</td>
<td>Finding the exemplar for the use of SNOMED</td>
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A HEALTH JOURNEY  From being born well to dying well

We recognise that people are on a life journey and that interactions with the health system happen throughout life.

We looked at a slice of interaction for two personas. These interactions are composed of a pre, during, and post phase.

A set of these interactions build up a picture of a person's health journey over the course of their lifetime.
We asked participants to explore the experience of two particular users, Rosa and Charlotte.

Charlotte represents a high touch user who has regular interactions with the health system that can vary in severity.

Rosa represents a low touch user with infrequent but sometimes urgent interactions with the health system.

Charlotte is a mother of three in Auckland who has gestational diabetes. She is also dealing with pregnancy with her fourth child.

Rosa recently visited her GP with severe abdominal pains and was sent to the hospital with a suspected case of Appendicitis.

Dominic is a 25-year-old rural GP, who is relatively new, still gaining experiences and learning on the job. He works long hours and is highly focused in delivering the best care he can to his patients.

Andrew is an elderly father who is dealing with the onset of Alzheimer's. He is currently in early stage care but something his wife needs to know.

Robyn is a newly diagnosed cancer patient. Her breast cancer was picked through mammogram after she presented her concerns to her doctor.
We explored the connection between the experience of a persona (Rosa or Charlotte) as they moved through the pre, during and post stages of their clinical experience. We looked at this from both the user and the clinician experience to understand what we could create to satisfy both users.
**CLIENT JOURNEYS**  
**Rosa**

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### Patient experience

**Virtual consult and +/- signposted actions. Complete pre-assessment tests.**
- **Recognises personal information**
  - Personalised diagnostic pathway – directed to most appropriate care
- **Access EHR (own information + personalised diagnostic pathway (clinical, social, genomics)**

**I can expect you to know enough about me to help me and know who I need to support me (SA)**

**Family kept up to date and can track recovery and Rosa’s progress through the system**

**Expect to have my time to be valued, listened to and understood (BA)**

**I can expect only have my story told once and have my rights upheld (BA)**

**Expects to be involved in all clinical decisions about me and am able to access my clinical pathway for information at any time. (SA)**

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### Clinician experience

**Virtual consult all information in EHR**
- **If requires “admission” location identified by e-system**
- **Messaging to venue re “admission”**

**We can expect easy access to all relevant prior information (BA)**

**I can expect honest representation of Rosa’s condition (BA)**

**Expect to have Rosa’s involvement in her own care (BA)**

**We can expect a functional partnership between Rosa and her clinician (SA)**

**I can expect my time, skill and professionalism valued (SA)**

**I am confident that the excellent care I gave our patient will be continued by following the care plan (BA)**

**I am confident I have all the information I need to deliver quality care (BA)**

**Clinical staff are delighted that their time is being used productively (BA)**

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**Base Aspiration**

**Stretch Aspiration**

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**Severe but Brief Connection**

Rosa presents at her GP with severe abdominal pain and is sent to the hospital with a suspected case of Appendicitis.

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**Pre**

**During**

**Post**

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**Post**

**Pre**

**Base Aspiration**

**Stretch Aspiration**

---

**Be confident that my care plan is up to date and available to all who need it (SA)**

**Collect information via sources – self-management**

**I feel safe and supported because my care team and whānau have access to all relevant information (BA)**

**I was overjoyed that my time was valued and I was able to get back to work quickly (BA)**

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**Pre**

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**Pre**

**Base Aspiration**

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Charlotte is a mother of three in Auckland who has gestational diabetes. She is also midway through pregnancy with her fourth child.

**CLIENT JOURNEYS**

**Charlotte**

**Pre**
- **Base Aspiration**: Analytics tell us if Charlotte is at risk and what interventions should be made (SA).
- **Stretch Aspiration**: I can see which other social agencies are working with Charlotte or her children (SA).

**During**
- **Base Aspiration**: I can be confident that my core team knows about me, my condition, my history and my family situation (BA).
- **Stretch Aspiration**: I know what to do because I have an up-to-date care plan (SA – but should be BA).

**Post**
- **Base Aspiration**: I have access to a person who can help me when I need it (BA).
- **Stretch Aspiration**: Home and/or personal monitoring in place “super fitbit” (BA).

**Patient experience**
- I can be confident that my core team knows about me, my condition, my history and my family situation (BA).
- I have access to a person who can help me when I need it (BA).
- I know my “info’s up to date so my management is likewise” (BA).
- Know my doctor/health professional (BA).
- Home and/or personal monitoring in place “super fitbit” (BA).
- Support team notified when needed (Team made up of GP, Housing, Whānau) (BA).
- Transport is coordinated with children (BA).

**Clinician experience**
- Analytics tell us if Charlotte is at risk and what interventions should be made (SA).
- I can see which other social agencies are working with Charlotte or her children (SA).
- I can access or refer issues to other government agencies easily (SA).
- Know who my patient is (BA).
- Know why my patient is here (BA/SA).
- Know my patient’s medication (BA) + allergies /alerts.
- Link patient’s meds to conditions/reasons (SA).
- Get automated risk profiling (SA).
- Clinical team confident they will be notified when needed (BA).
- Alerts, triggers and notifications are automated (BA).
- Can see referrals and appointments that have been made.
- Patient info linked from eHR (BA).
- Automated alerts e.g. to take medication or to pick up medication.
- Improve analytics capability to predict and manage reason for being a Frequent Flyer.
- Data modelling for future health situations/preventative health programs and social investments (BA).
- Making mainstream successful social sector integration Clinical to Social (one-team).
Key Shifts
We wanted a way to illustrate the scale of change and activity required.

We asked each stream to describe the key shifts across various system components: people, technology, processes, legislation, data, funding, and whatever matters most to the service to understand the change.

**From**

A description of the current state, and what may need to change.

**To**

A description of the future state, where we want to be. This may be new activity, activity which has been strengthened or maintained.

**Critical Success Factors (CSF)**

What critical actions need to take place in order to achieve the desired future state.
KEY SHIFTS

**Health Professionals**

**Consumers**

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**FROM**

- Health Professionals
  - FROM: People
    - People: Patient
  - FROM: Practice
    - Practice: Patient
  - FROM: Technology
    - Technology: Data
  - FROM: Data
    - Data: Access to Information

**TO**

- Health Professionals
  - TO: People
    - People: Patient
  - TO: Practice
    - Practice: Patient
  - TO: Technology
    - Technology: Data
  - TO: Data
    - Data: Access to Information

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**FROM**

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**TO**

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    - People: Patient
  - TO: Practice
    - Practice: Patient
  - TO: Technology
    - Technology: Data
  - TO: Data
    - Data: Access to Information
KEY SHIFTS

Digital Hospital

Informatics Profession
**KEY SHIFTS**

**Architecture and Standards**

**Vendors and Integration**
## KEY SHIFTS Synthesised

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Critical success factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>People</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Passive, viewing, repeatedly asking&lt;br&gt;• Complexity mindset&lt;br&gt;• Deficit thinking “why it can’t be done”&lt;br&gt;• Privacy roadblocks&lt;br&gt;• Individual siloed clinicians&lt;br&gt;• Informatics specialist&lt;br&gt;• Passive patient recipients&lt;br&gt;• Passive recipient&lt;br&gt;• Siloed approach to practice</td>
<td>• Doing/active verifying&lt;br&gt;• Simplicity is ok&lt;br&gt;• Creative/innovative thinking “what’s possible”&lt;br&gt;• Trusted and appropriate information sharing (e.g. data futures forum)&lt;br&gt;• Coordinated, communicating care team&lt;br&gt;• Informatics embedded in practice and education&lt;br&gt;• Active patient recipients&lt;br&gt;• An active participant&lt;br&gt;• Across continuum inter-professional community (1 degree/2 degrees/sector)</td>
<td>• Technology and training/work practice change&lt;br&gt;• Clinical leadership for change&lt;br&gt;• Stop talking about IT and start talking about problems and opportunities&lt;br&gt;• A simple way to access information needed to manage population and individual health relevant to different settings and roles, e.g. consumer, clinician&lt;br&gt;• Access to information&lt;br&gt;• Focus on creating a service/system that helps the person to be proactive and self-manage&lt;br&gt;• Carrot – funding to incentivise outcome&lt;br&gt;Stick – leadership and direction decisions</td>
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<td><strong>Practice</strong></td>
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<td>• Proprietorship, ownership of data&lt;br&gt;• Episodic care&lt;br&gt;• Variation in practice, individual data collection, embedded behaviour&lt;br&gt;• Variation, sub-optimal care&lt;br&gt;• Old medical culture&lt;br&gt;• Attitude of seeing person as a disease</td>
<td>• Custodianship&lt;br&gt;• Continuum of care&lt;br&gt;• Standardisation, analytics, personalised treatment&lt;br&gt;• Evidence based practice, clinical guidelines and pathways&lt;br&gt;• New co-participatory culture&lt;br&gt;• Seeing the person</td>
<td>• Culture change to enable sharing&lt;br&gt;• Stop talking about IT and start talking about problems and opportunities&lt;br&gt;• A simple way to access information needed to manage population and individual health relevant to different settings and roles, e.g. consumer, clinician&lt;br&gt;• Decision support systems&lt;br&gt;• Time and resources for health professionals to manage changes and learn&lt;br&gt;• Incentivise care, wellbeing and health outcomes</td>
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<td><strong>Technology</strong></td>
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<td>• Silos&lt;br&gt;• Historical legislation&lt;br&gt;• Paper and standalone ‘e’ system&lt;br&gt;• Variation in practice&lt;br&gt;• Siloed, the answer, replication&lt;br&gt;• Frustrated clinicians&lt;br&gt;• Audit/analysis is retrospective, unreliable, difficult&lt;br&gt;• Technology and data disconnect</td>
<td>• Layered, shared architecture&lt;br&gt;• Legislation to support the ‘new world’&lt;br&gt;• Digital!!&lt;br&gt;• Systematised process and practice analytics&lt;br&gt;• Integrated, ongoing adaptation, one source of truth&lt;br&gt;• Intuitive, fast&lt;br&gt;• Audit is automatic prospective, real time&lt;br&gt;• Easy to use, accessible and integrated systems</td>
<td>• Agreed architecture&lt;br&gt;• Adequate funding and resource&lt;br&gt;• EMRAM 7&lt;br&gt;• Stop talking about IT and start talking about problems and opportunities&lt;br&gt;• A simple way to access information needed to manage population and individual health relevant to different settings and roles, e.g. consumer, clinician&lt;br&gt;• Usability design&lt;br&gt;• Analytics within system&lt;br&gt;• Funding</td>
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<td><strong>Investment</strong></td>
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<td>• Siloed funding</td>
<td>• Patient-focused social investment funding</td>
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<td><strong>Data</strong></td>
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<td>• Non-standard data&lt;br&gt;• Unreliable duplicated information</td>
<td>• Standards and clearly defined content&lt;br&gt;• Robust data, single source of truth, accessible navigation</td>
<td>• Agreed standards and certification&lt;br&gt;• Standards and protocols, architecture</td>
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Making the case for an EHR

Development of an early EHR model
The compelling narrative for each stream
Our collective value proposition
On Day 2, participants started to think about what an EHR could look like. This process went through two iterations on the day. The output from the workshop has been digitised on the following two pages and is intended to be a stake in the ground we can build from.

Developing iteration one as a whole group, flipping the model and putting the consumer at the centre more.

Describing the current state

Iteration one, describing the layers and possible work phases

The six stream leads were tasked with developing a second iteration: a citizens view, and the system view. The whole group fed their thoughts back over lunch.

Presenting iteration two back to the wider group.
This iteration is intended to become a stake in the ground, to build from.
This iteration is intended to become a stake in the ground, to build from.

**EHR MODEL ITERATION TWO**  
**Governance and Capability View**

- **Local solutions**
  - GP
  - Pharmacy

- **Apps**
  - Patient reported data and monitoring

- **EMR Level – Regional platforms**
  - PAS
  - LABS

- **Nationally standardised enablers**
  - Audit of access
  - Clinician privileges and identity
  - Consumer preferences and privacy
  - Record locator service

<table>
<thead>
<tr>
<th>Audit of access</th>
<th>Clinician privileges and identity</th>
<th>Consumer preferences and privacy</th>
<th>Record locator service</th>
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<tr>
<td>EHR Level – Foundational: Phase One</td>
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<td>NHI Demographic</td>
<td>Alerts and adverse</td>
<td>Care Team</td>
<td>National clinical pathways</td>
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<td>Medicines</td>
<td>Immunisations</td>
<td>Problem list</td>
<td>Breast and cervical screening</td>
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<th>Phase Two</th>
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<td>Immunisations</td>
<td>Care Plan</td>
<td>Use cases</td>
<td>Task Management Data</td>
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Reference data standards: HPI, ULM, SNOMED
THE COMPELLING NARRATIVE  Health Professionals

Invest in an EHR because:
It enables transformation of healthcare – a once-in-a-generation opportunity to collaborate and transform healthcare delivery using IT as a tool.

The desirable experience we will enable:
We will know our patients better to enable us to collaborate with them. Reliable, accurate, meets expectations for all involved.

Actions we will take:
1. Health professionals get access to their own records
2. Stocktake – what we have, what works at a national, regional and local level
3. A new governance model with clinicians, IT, vendors, managers at the same table to facilitate sharing and transparency. A clear command structure and transparent plan and orchestration across organisations chaired by ministry.

The viable outcomes for ministers and CEOs:
Better use of clinician and patient time and resources (e.g. reduction in bed days, better chronic conditions management, better care of the elderly). Creation of a more intelligent system.
THE COMPELLING NARRATIVE  Consumers

Invest in an EHR because:
We need an EHR to create the system.

The desirable experience we will enable:
For people to actively participate in and own their health management, and use the system meaningfully.

Actions we will take:
Critical success factor (CSF): focus on creating a service/system that encourages proactivity and self management.
Consumer and clinician push for more increased use of patient portals by:
1. Running regional focus group sessions to identify consumer preferences and design preferences (H1)
2. Develop multi-channel inputs for general population feedback to inform ongoing design (H2)
3. Consumer co-design and input is embedded in the eHR CQI system (H3)
Practice CSF: Incentivise care, wellbeing and health outcomes
People CSF: Focus on creating a service/system that encourages proactivity and self-management
Action: Consumer and clinician push for patient use of portals
Action: Encourage consumers to drive the change

The viable outcomes for ministers and CEOs:
A platform that creates benefit for users for years to come and reduces the risk of poor health outcomes and inequalities
THE COMPELLING NARRATIVE  Digital Hospital

Invest in an EHR because:
Inefficient sharing, patient harm and system waste leads to poor outcomes at present.

The desirable experience we will enable:
Patient: I only need to tell my story once
Clinician: the information capture falls out of the process and I am supplied with decision support information

Who will benefit:
High dependency patients and patients in 3rd degree case treated out of region
Urgent/Emergency care out-of-region
Cross regional referrals/shared care
People who move to a new region (and the clinicians who treat them)
But in the short-medium term, any patient in a region where a regional EMR is not mature enough to support region-wide EMR (EHR can drive the adoption via standards etc.)

Actions we will take:
1. 3 months – Baseline EMRAM scores, identify clinical leaders
2. 1 year – Provide DHB with digital hospital blueprint/design/expectations (within the broader digital eco-system)
3. 3 years – Benefits of digital hospital become evident in our leading hospitals within 3 years (baseline)
4. 2-3 exemplar hospitals in operation (stretch)

The viable outcomes for ministers and CEOs:
1. Sustainability of health system in the context of growing demand
2. Outcomes are measurable
3. Transparency of performance
4. Reduced clinical and system risk
5. Giving patients a better experience
6. Demonstrable operational efficiency (Growth in demand managed without proportional growth in cost)
Invest in an EHR because:
Risk of a plethora of commercial and clinically-designed EHRs
Fragmented not collaborative
Otherwise no access to national overview of Health Care act and outcomes and no planning info
Improve capability and capacity of consumer and clinician
Opportunity is lost
Reduce instances of multiple versions of what was the truth

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The desirable experience we will enable:
Patients:
- Equity of outcomes
- Access to knowledge – reliable and easy to understand
- Care collaboration with whānau

Clinician:
- To enable more efficient knowledge management
- Available data to inform and monitor care

Actions we will take:
1. Clear about what we are trying to achieve
2. Clarify scope
3. Clarify what needs to be driven nationally
4. Clarify who is responsible for EHR development

The viable outcomes for ministers and CEOs:
1. Transparency of the health system
2. Assess cost effectiveness
3. Benchmarking
4. Move more activity to self care
5. More confidence to maintain care in home
6. Appropriate interventions
THE COMPELLING NARRATIVE  Architecture and Standards

**Invest in an EHR because:**
Siloed information causes waste and harm, shared information enables quality co-ordinated care and clinical decision support.

**The desirable experience we will enable:**
A robust, highly available, fast solution that delivers quality info supporting safe, efficient, effective care and decision making leading to an improvement of the patient journey; a solution that is international standards-based for streamlined user experience in a smart and people-powered health and social system which fosters innovation.

**Actions we will take:**
1. Use cases: consumer/provider. We need these from Consumers and Health Professionals. 3/12
2. Architecture design principles (overlying the EHR design principles) 3/12
3. High level solution architecture for EHR and touchpoints. Solution options/participate in what dialogue. 3/12
4. Data set specifications for MVP (meds, allergies, adverse reactions, problem list). Draft for comment. 3/12
5. FHIR API profiles. (Input into a detailed solution arch) 12/12
6. Develop trust model (based on health info government framework)
7. HISO Standards. Data sets, API profiles, Trust model 12/12
8. Technology roadmap for EHR, target state per phase 36/12

**The viable outcomes for ministers and CEOs:**
1. A long life, loose fit solution for improved health care with reduced waste.
THE COMPELLING NARRATIVE  Vendors and Integration

Invest in an EHR because:
Patent safety and therefore outcomes
We’ll have a better view and understanding of patient outcomes
Increase efficiency, free up more money and re-invest back into healthcare

The desirable experience we will enable:
Greater confidence and satisfaction and convenience delivered in the care journey
Improved conversations (value based vs fact discovery)
Decision support at point of care in context of current care
Easier participation in the health sector

Actions we will take:
1. NZ Inc. collaboration
2. Leverage existing investment in NZ across the nation (select small number of examples and implement and trial one or more of these e.g. transfer of care and medications)
3. Identify all existing national repositories that could be used for eHR
4. Change any legislation that we need to be able to progress i.e. Need for paper and prescriptions, re-identification of data.
5. EHR PIA

The viable outcomes for ministers and CEOs:
1. Value for money, EHR is viable and shows a return on investment
2. Progress in health and support of the national digital strategy
3. Keeping people out of hospital
4. Supports wellness model
5. Support NZ data futures forum
6. Improved GDP through NZ INC
7. Reduced risk
Team presented their compelling narrative to a panel consisting of Murray Milner, Chair National Health IT Board, Giles Southwell, Acting Chief Technology and Digital Services Officer, and Steve Boomert, CEO Procare.

They asked the group to consider the following:

- How do we structure accountability for the EHR?
- Outcomes for patient care – let’s get some clinical examples, which population groups are going to benefit first and the most from an EHR
- Will this help us deliver to the health strategy? How does this progress the health strategy?
- We need to understand the counter-factual so we can compare it to where we’re going
- Benchmarks that we can compare with other jurisdictions are absolutely key
- Leveraging what’s going on in the portals is important, we have seen an exponential uptake with many people actively using. That is important experience to learn from

Panel: Closing words and Key Messages

In the health system we each have to go and spread the word about the EHR to 12 other people. We need to have this conversation, about how we might afford an EHR as this is now the expected behaviour.

We have more things in our favour than ever before.

We have to be careful that a lack of success in some regions isn’t a justification not to develop a national EHR.

We have to find a way of affording and providing a strong value proposition for the investment we want our leaders to make.
Appendix

Reflections, ideas, sparks, and talking points
REFLECTIONS  Ideas and sparks to consider or take forward

What is our shared journey and how do we align our actions in a way that builds an eHR that is integrated, coordinated and inter-operable?

- Lots of moving pieces, shifting sands – national eHR, northern region eHR, PICS... how are we keeping alignment
- Guiding principles will be useful
- Need to keep on top of trends in IT
- How do we achieve transformational (rather than incremental) change that delivers a highly responsive, mobile and citizen-centric system?
- How do we transform from what we are to what we want to become? Maybe even to what is already in New Zealand?
- How do we develop an eHR that is cost effective as well as one that delivers positive outcomes for New Zealand citizens?
- How do we build on existing relationship and knowledge and create a change based on continuous improvement?

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There is a strong passion to make a positive change and a wealth of experience held by people involved in developing the eHR.

- Hope of being involved in change!
- Passion to contribute to change
- After a few years of discussion, these talks still haven’t made the ‘national press’

How do we effectively utilise IT to support us in building a game changing eHR that will help us meet the requirements of the New Zealand Health strategy?

- How do we effectively utilise IT to support us in building a game changing eHR that will help us meet the requirements of the New Zealand Health strategy?
- Opportunity it to help improve healthcare in New Zealand. The efficiency and effectiveness of delivery.
- Frustration that the system is preventing me from best caring for my patient
- Try and ensure that we “keep it real” and get the basics right
- Walk before we try and run
- How will cross-sector, cross-agency leadership help us to create a world leading health system?
- Leadership has to mandate collaboration. Cross sector, cross agency, public private partnership.
- How will cross-sector, cross-agency leadership help us to create a world leading health system?
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How will this eHR improve the healthcare journey for millions of New Zealand citizens and improve the co-operation between our health professionals?

- Lots of mentions of business cases – what the CE’s want regarding “outcomes” and value proposition. How do we develop an eHR that is cost effective as well as one that delivers positive outcomes for New Zealand citizens?
- Quality of data and data design is key says David Meates
- How can we manage data in a way that maintains the quality and accessibility which results in a positive impact at the point of care?
- To improve information at point of care

How is the pathway forward for developing an eHR, how do we make connections and take the first steps towards implementation?

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REFLECTIONS  Talking points

Make sure we truly behave and act as one team with one goal, whatever the organisation. Don’t leave anyone out.

What’s our reference point?
- We’ll take stock of what we already have in NZ
- Uniting NZ
- Australian PLEAR Didn’t work with ‘opt in’ model. Must be ‘opt out’
- Interact with international community. Get the knowledge.

We need a clear starting point, and must ensure this work is informed by what is already happening here and overseas.

What is an EHR?
- Clinical transformation, EHR is an outcome in its own right
- An EHR is data.
- What EHR is and is not (ARCH).
- EHR big isn’t focused on either primary vs public health
- Need to have robust architecture and policies
- Health professionals and consumers need access to data as much (if not more) than health professionals
- Consumer control of access to data. What about clinicians?

In detail, an EHR is many things to many people, but ultimately it is a different way of connecting, providing information, communicating, and creating improved experiences.

The core focus when designing an EHR needs to be on the experience it creates for consumers and health professionals.

What others are doing is only a reference, not a goal.
- We will take stock of what we already have in NZ
- Universe class vs world class.
- Australian PLEAR Didn’t work with ‘opt in’ model. Must be ‘opt out’
- Interact with international community. Get the knowledge.

We need to ensure the business case and value proposition are strong. Why are we doing this, what is the purpose, what is the tangible benefit?

What’s the detail around architecture, standards, and data?
- Business case – ‘Frigate’ v ‘HER’
- EMRAM is too focused on hospital vs public health
- Need to include private health as well as public
- Hospital it is not a factory - Can’t converge clinical pathways and processes
- How does information flow – How does it follow patient – go ahead of patient – to patient?
- How do patients flow through the system – What is their experience?
- Users – Primary users are both health pros and consumers – How do health pros use both?
- Health professionals and consumers need information as much (if not more) than health professionals
- Consumer control of access to data. What about clinicians?

Start, basic, small and simple. – Tangible and achievable first step

REFLECTIONS  Talking points