

Applying technology to improve rural health

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More than 7 per day

• 1960

2018





In 2008 a whole genome sequence cost

USD\$10 million

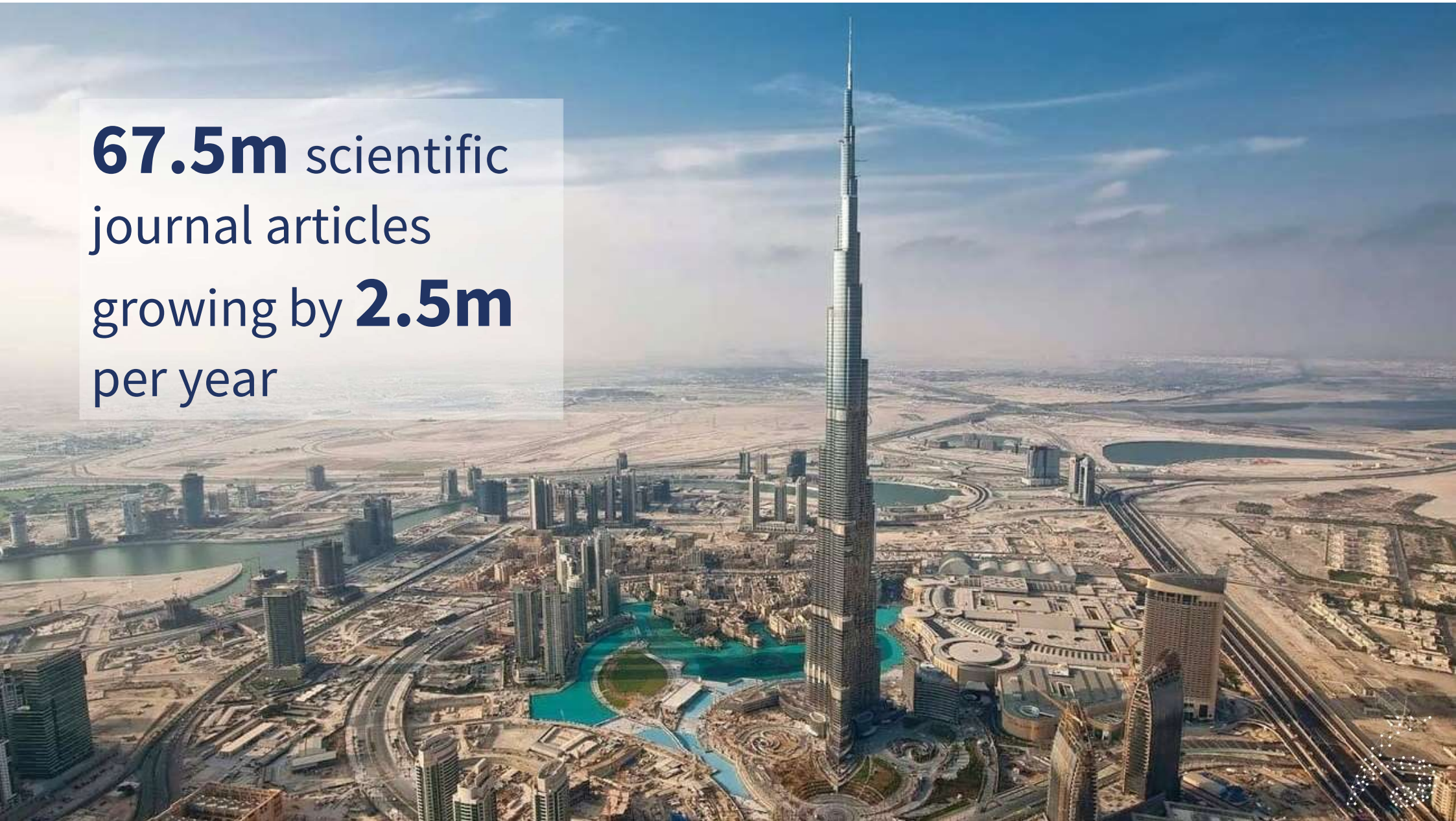
\$100

“a new and scalable sequencing architecture expected one day to enable a genome”

Illumina



67.5m scientific
journal articles
growing by **2.5m**
per year





Evidence takes **years** to become best practice

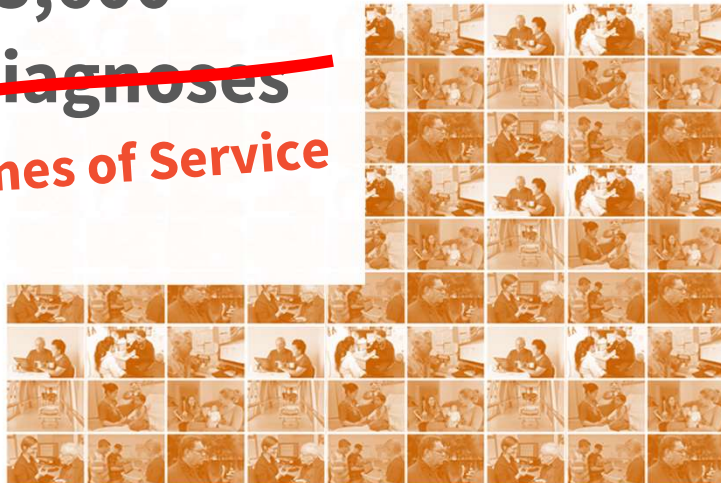




13,600

~~Diagnoses~~

Lines of Service



ANNALS OF MEDICINE NOVEMBER 12, 2018 ISSUE

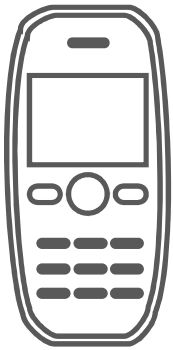
WHY DOCTORS HATE THEIR COMPUTERS

Digitization promises to make medical care easier and more efficient. But are screens coming between doctors and patients?

By Atul Gawande



Current challenges



Digital Divide

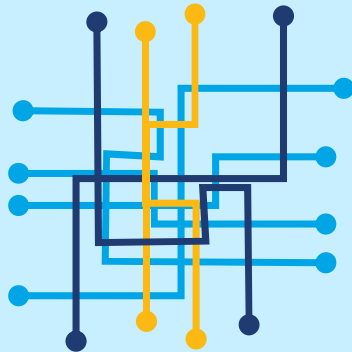


Growing Cyber Security risks



Realising the Digital Dividend

Open Data and Sharing



A lack of robust, repeatable and standardised ways of sharing between different parts of the health sector



A complex, tired and fragile technology landscape that is hard to change



Where do we want to be?

From 'Individual'... to 'Team'

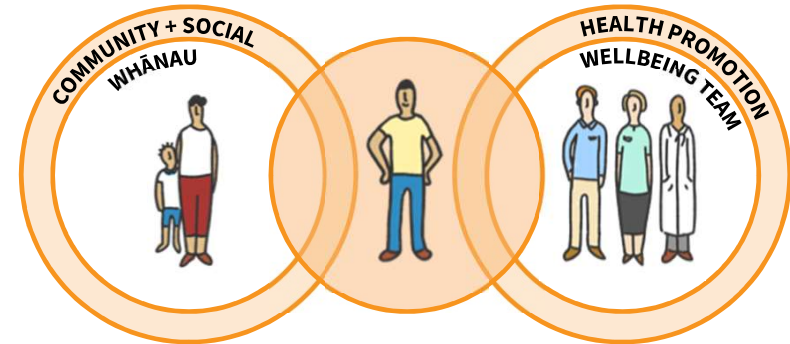
EPISODIC ILLNESS



View (Portal, Letter, TXT, Facsimile)

- My health provider asks me for my health information every time I'm sick
- My clinician records my health information in their system and decides how it is used
- My health information is incomplete and only exchanged on a need-to-know basis

WELLBEING



Do (Actionable, Accessible and Interactive)

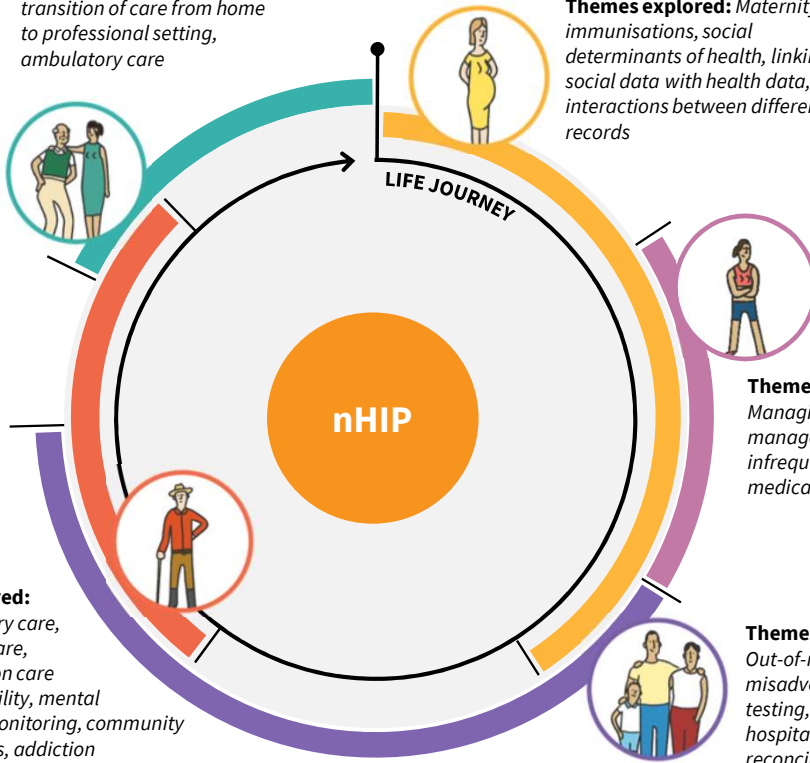
- My health information is always available to those I trust to keep me well and those who need it
- I can control my health information and choose who I will share it with
- My health information now creates a complete picture which lets me and my whanau keep me well



A Life Course Approach

Themes explored: Palliative care, end-of-life care, aged care, residential care, transition of care from home to professional setting, ambulatory care

Themes explored: Maternity, immunisations, social determinants of health, linking social data with health data, interactions between different records



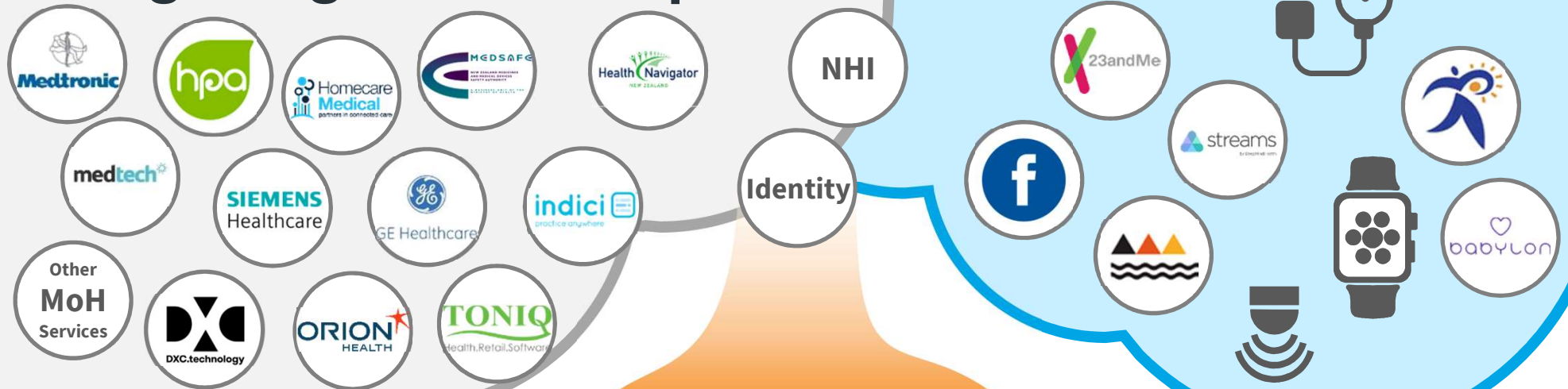
Themes explored: Multi-disciplinary care, co-ordinating care, chronic condition care planning, disability, mental health, home monitoring, community health providers, addiction

Themes explored: Managing wellness, self-managed, user generated data, infrequent interactions with the medical system

Themes explored: Out-of-region, medication misadventure, duplicate testing, allergies, hospitalisation, medication reconciliation



Creating a Digital User Experience



Digital User Experience

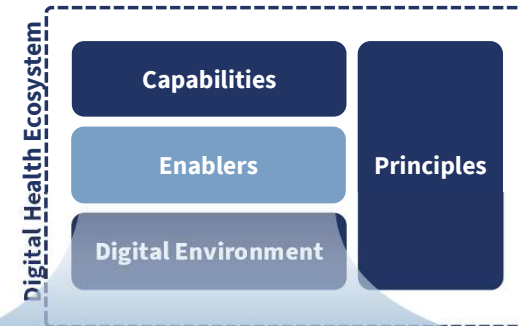
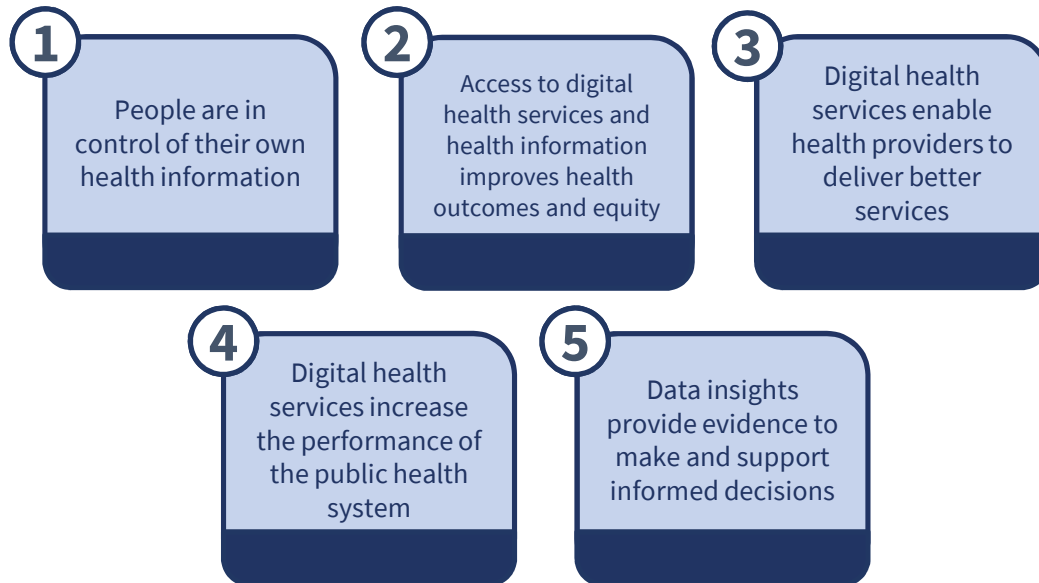


How do we get there?

“Medicine is a complex adaptive system: it is made up of many interconnected, multilayered parts, and it is meant to evolve with time and changing conditions.”

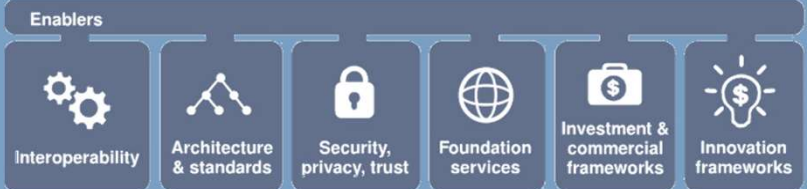
Dr Atul Gawande

Objectives



Enablers are:

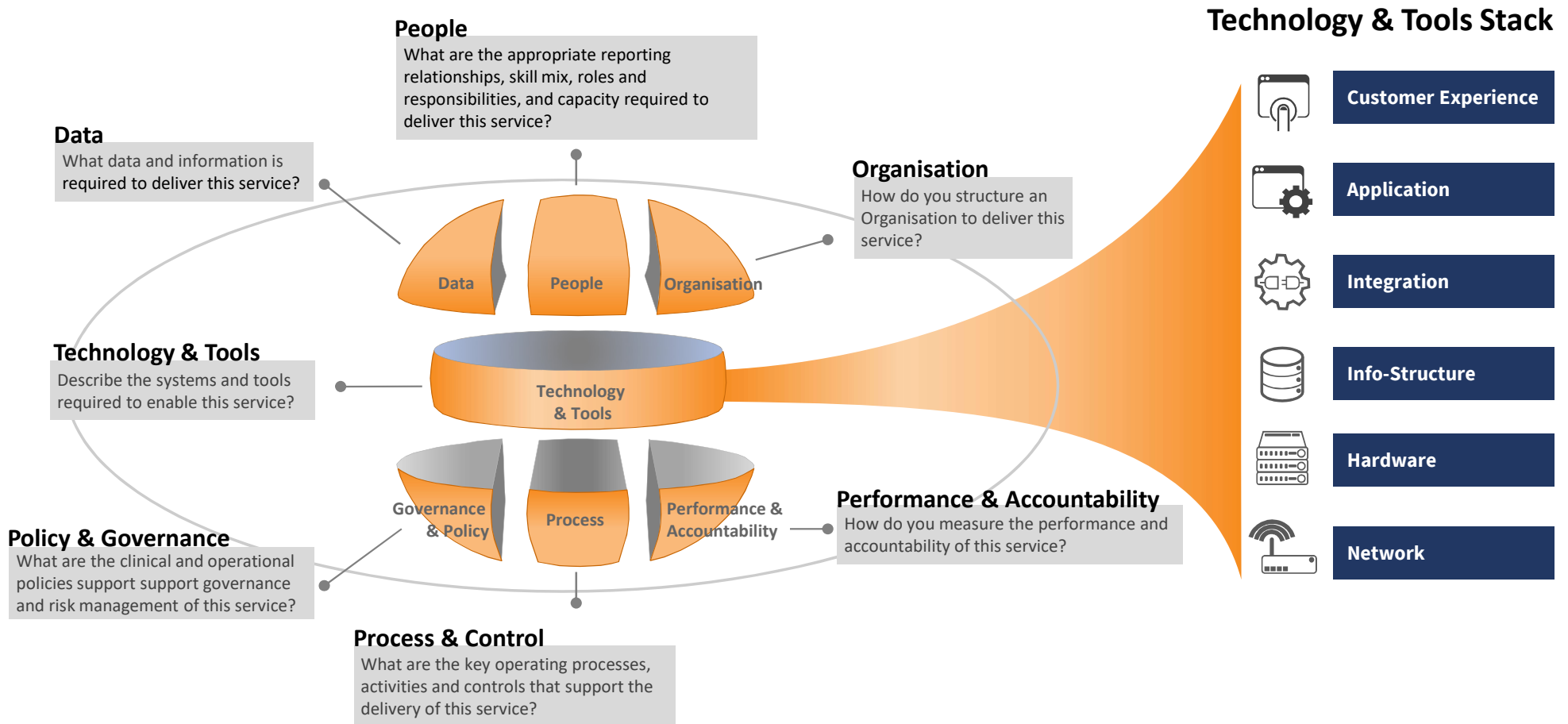
- Resources, frameworks and guidelines that create focus and cohesion
- Enablers are critical; without these the digital ecosystem is fragmented and chaotic
- Compliance with the enablers is essential.





What does this
mean for our rural
communities?



Building Service Models



NZ Broadband Stats

Connection Type	Speed	Coverage of households & businesses	Completion Date
 Fibre to the Premises	1 Gbps 1 hour GoT episode in 8 seconds*	87%	2022
 Mixed Modalities	20 Mbps 1 hour GoT episode in 6-7 minutes*	12.8%	2023

Context

NZ is expected to be in the top five in the OECD for fibre availability

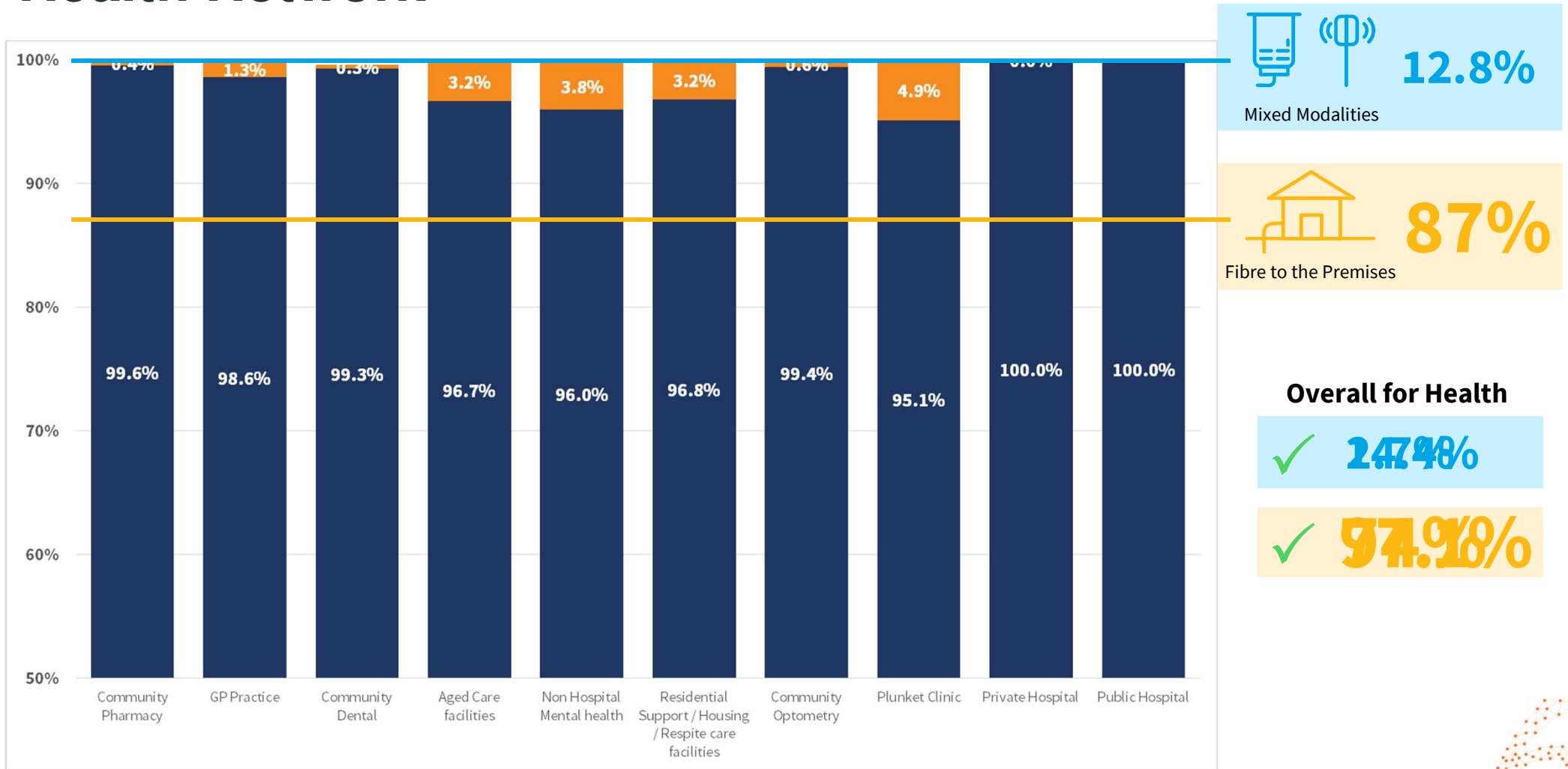
Australia's target is 100% have 25Mbps and 90% can get 50Mbps by 2020

Hotspot 2.0 will let us access separate wifi in people's homes, schools, community centres and marae without entering a password

* Episode is approximately 950MB at 720p



Health Network



Source Data: Chorus, InternetNZ

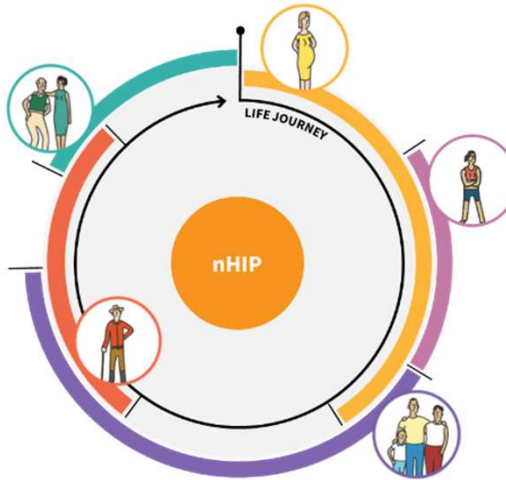


Having a network is not enough

Not everybody has a smart phone



In 2017, **94%** of NZers had access to the internet
71% used a smart phone to access the internet



A free phone call is better for engagement than asking someone to use their data allowance



Sponsored Data

Working with Spark, 2 Degrees and Vodafone

6 sites whitelisted in Southern DHB area

About 8 weeks in, seeing 20-50% increases in web-traffic



Exploring the Full Stack

“Explaining my medications” is consistently the lowest scoring answer in the national patient experience survey. **Only 52% of patients answer most positively** – cf. 85% overall (Aug 2018)

It has been estimated that medicine related harm currently costs the NZ health system **\$222.5m per year**.

New Zealand received **300** consumer reported side effects for medicines in 2018

It is estimated that non adherence to medicines for chronic conditions costs the health system **\$317 billion** globally each year.



What is it?

Objectives

Validates the need to create a **reusable, secure identity** – aligns to DIA and Govt agenda

Helps us understand how we can make a **marketplace** flourish once we get our building blocks in place

Tests the hypothesis that we have data that the public wants and that giving them control has merit

Lets us **further our conversation in the health sector** about the opportunity of digital

Learnings to Date

We are seeing an challenges to **how we currently work** and seeing the opportunity to work differently

We are beginning to understand that **information for consumers** isn't that easy to find or understand

Many of the problems we are solving are **not technical or unique** to health and have been solved for other industries – we can leverage this

Security by design is **critically important**

We have **early** widespread support to make these types of services available





**Visit our
website to
learn more**



www.digital.health.nz

