the politics of e-health

The benefits of digitising health are undisputed, as is the need to reduce healthcare costs with our aging populace. But e-health initiatives get bogged down in politics and cost way more than they should. We sent ***James Riley*** *to take the temperature of e-health and its politics in New Zealand...*

There isn't a health system on earth that does not face difficult challenges. In fact, these are the words that often define the portfolio everywhere – difficult and challenging.

When it comes to developing and implementing a supporting e-health strategy, the challenges grow exponentially. E-health is one of the most complex public policy areas in government.

But for all the difficulty and all of the challenges, e-health gives policy-makers tremendous opportunities for better services and better outcomes at lower costs. And for innovators, e-health is a fast-growing global market.

Defining an e-health strategy, for all its complexity, turns out to be the easy part. It is the roll-out and implementation phase where these best laid plans can come unstuck. This is where multiple data sets, legacy systems, privacy protection issues and the many powerful and competing interests of the health sector converge.

So cost overruns in e-health projects are not uncommon, just as project delays are more frequent than anyone would like. And occasionally a project will result in a giant technology hairball that can literally take years to pick apart. It happens the world over.

It would be optimistic to think that New Zealand could undertake a strategic e-health programme of the size, scope and ambition of Health Minister, The Honourable Tony Ryall's without coughing up a hairball of just such distinction.

And at least one project being undertaken at Health Benefits Limited – the Oracle back-office financials implementation – has taken on the melancholy characteristics of a project in deep trouble.

The signs are not difficult to spot, and they are remarkably similar no matter where in the world they occur: a whistle-blower, a quiet management reshuffle, and a series of stories about delays, cost blow-outs and eye-watering fees from global management consultants are the common signs.

The Health Benefits Limited Oracle implementation underpinning its Finance Procurement and Supply Chain (FPSC) programme of works is ticking all these boxes, and can add to that list a somewhat paranoid Minister's office.

"The reason health IT can end up as such a hairball is that everyone wants to throw money at the problem to fix it once with a new system implementation."

Graeme Osborne, director, IT Health Board (NZ)

With an election looming in New Zealand, the Oracle project's shortcomings – and even its worthy ambitions – are about to come under the intense glare of campaign politics.

But in politics as in life, you take the good with the bad, and in New Zealand e-health, there is a great deal that is good, and that is working. It is unarguable that the nation can claim genuinely world-class expertise in the delivery of technology in the health sector.

And under Minister Ryall, New Zealand has also created an industry structure that has enabled local innovation to float. This structure has created an e-health ecosystem that has allowed local New Zealand software developers to build products that have flourished in international markets.

The structure has allowed for decentralised decision-making through a national framework. It includes not just the National Health Board and the IT Health Board, but also the New Zealand Health IT Cluster and its co-operative links into industry and into the Trade Ministry.

And of course it includes the District Health Boards. Whatever level of frustration the competing interests of health might engender in New Zealand, it is hard to argue with the fact the structure has, in broad terms, delivered value for money in terms of e-health to its citizens.

Minister Ryall can rightly take credit for the current wave of activity in e-health. And certainly he is highly regarded for having brought with him a pragmatic enthusiasm to the portfolio – which was certainly important in the lean times for the health sector that followed the Global Financial Crisis.

Long live the National Health Index

New Zealand's long-term prowess in e-health runs deeper than Minister Ryall. Orion Health chief executive officer Ian McCrae says the platform that has enabled both the delivery of e-health and the creation of world-class New Zealand innovation was the launch of the National Health Index number in the early nineties.

While much of the rest of the developed world is only now grappling with the complexities of a single patient identifier, New Zealand's NHI gave the nation's healthcare sector a head start in taking advantage of the low-hanging fruit of e-health.

Whatever advances have come later owe much to the creation of that single identifier. "One of the key things that put us here was that government put together its National Health Index," McCrae says. "That really set a fire under things as far as automating patient information goes.

"It meant every patient had a unique identifier. They linked all of the hospitals into the National Health Index, and ultimately also got all of the GPs using that unique identifier as the patient identification number.

"It meant that medical records could be tied together, so that you can see all of the data related to Jane Doe. And that [the NHI] has been a great starting platform," McCrae said.

As the CEO of a New Zealand company that continues to enjoy global success as a provider of e-health software and services, McCrae is naturally bullish about the way the New Zealand sector has responded to e-health challenges.

But when he looks at the e-health future for New Zealand, McCrae sounds a cautious note. Because for all of the current e-health expertise in New Zealand, and for all of the enthusiasm within government for implementing best practice solutions, he says authorities have not yet understood the dramatic changes currently occurring in Health IT (see sidebar).

These changes move well beyond the kind of process automations that have improved the efficiency of clinical supply chain issues and instead include data intensive preventative health issues that range from genetic profiling and genomics to wearable data monitoring metrics.

"I certainly don't think we can rest on our laurels in New Zealand. Because what we have seen in the past 20 years has been incremental … but the changes that we will see in the next 10 years will be absolutely transformational," he says.

These are exciting times for the sector, McCrae says, with challenges and opportunities for the nation being presented in equal measure. But while the wranglings over complex technology implementations are one part of an overall picture, McCrae says policy-makers have to keep one eye on the future.

An IT Board of clinicians

With a unique patient identifier in place, policy-makers were able to see the cost savings and efficiency gains that could be enjoyed through better use of technology.

When Minister Ryall took over the Health portfolio in 2008, he made structural changes that boosted the priority profile of IT in the health sector. The creation of an IT Health Board – as a kind of subset of the National Health Board – was a fundamental part of that change.

As IT Health Board director Graeme Osborne tells it, Minister Ryall quickly came to the conclusion that while the nation had some innovative e-health strategies and programmes, they had not delivered the level of benefits and cost savings that had been hoped for.

The response was not to reduce the policy attention to e-health, but to increase it – and the creation of the IT Health Board was a part of that process. And it has worked. Osborne made sure he stacked his board with clinicians, researchers and CEOs from other health organisations, rather than IT professionals (although the board is chaired by perennial technology 'safe-pair-of-hands' Murray Milner, the former Telecom New Zealand CTO.)

It seems counterintuitive to stack an IT Board with non-IT directors, but Osborne says this approach has been the key to getting New Zealand's e-health focus on to outcomes, rather than individual solutions.

"The reason health IT can end up as such a hairball is that everyone wants to throw money at the problem to fix it once with a new system implementation," Osborne says.

"But that's not the way to win this game. You've

actually got to do the foundation work, and then you've got to get the core data sets in place, and then you want to implement the systems that use those data sets consistently well," he says.

"That's a challenge, but you've actually got to turn [the issue] on its head and get the clinicians to design the health system the way that they want it to operate."

Health information is one of the most complex of data sets. The health supply chain involves a myriad of different partners and professionals who need to share information – from the GP to the specialist, to the hospital administrators, the private sector radiography company, the insurance company, the pharmacist and the various levels of government.

And of course the patient needs access to all of this data, and all of the historical records behind it. The complexity of data being generated by so many different sources is further complicated by an overlay of privacy and personal choice. Health information is intensely personal and is guarded by strict privacy regulation.

For Osborne, the idea that you can have a single system delivering an electronic health record is a fallacy. "What you have got to realise is that you've got to deliver a core set of health information that is a bit like the web itself – it brings together information from a range of sources that paints the picture of someone."

The IT Health Board has stopped calling it an electronic health record, instead referring to this patient information as an electronic health view, to get across the notion that it is a curation rather than a repository. And this is where New Zealand has made great progress – if somewhat laborious – through its Patient Portal undertakings.

The criticisms of the IT Health Board and its activities have centred on the length of time it has taken to deliver projects. Osborne says the criticism is unfair. Everyone wants faster progress, he says, but a huge amount of work has been performed over four years in making sure the data was accurate and standardised.

"The key point is that the data has got to be trusted. The only way that we were going to be successful with e-health was if consumers were confident about what they were looking at," Osborne says.

Drowning in data or swimming in information?

Orion Health chief executive Ian McCrae knows better than most what is happening in eHealth technology developments around the world. Since founding the Auckland-based company in 1993, Orion Health has a grown to a 750-employee eHealth stronghold, with operations in 18 countries.

And what is happening in global eHealth right now are dramatic and transformational changes.

McCrae says the sector is being swept up by the same forces that have transformed whole industries, like banking and finance, and music and entertainment. Ubiquitous connectivity, cheap devices, low-cost compute power, commodity storage, cloud services, the internet: this is the laundry-list of generic technology that is underwriting fundamental change across the economy.

In the past two decades there has been incremental introduction of supply chain automation in parts of the health system, but in the next ten years it will undergo a radical makeover.

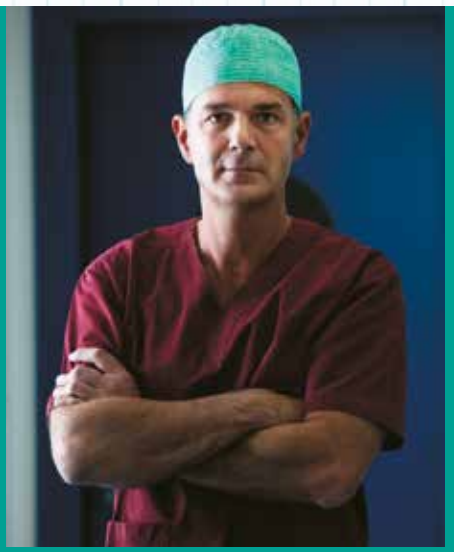
Orion Health's core competency is in-hospital information systems, patient record systems and collaborative care systems.

An example is New Zealand's South Island Alliance which is implementing a new Patient Information Care System (PICS). The system will manage the patient information from all hospitals and specialists in the region, allowing it to capture patient information at the point of care.

PICS will co-ordinate care between different hospitals and providers, greatly reducing the clinical errors and backend processing costs that can result from poor record-keeping.

McCrae highlights three changes: the impending deluge of data, the rise of genomics, and the demand-side pull of consumer services.

The immediate challenge will be finding ways to handle vast volumes of data. McCrae points to platforms like Apple and Android and others that are offering new and better ways to pull health data off devices. Devices are getting cheaper, and



more "wearable".

"These will be pulling down health information all day, every day, and sending it to the cloud. When things go off track they will send messages to doctors and patients and specialists," McCrae said.

There is currently an estimated 500 petabytes of health data generated globally. That number is expected to grow to 25,000 petabytes by 2020. "That's a 50-fold increase, and the systems today aren't really geared-up to ingest that volume of data."

McCrae says genomics will, as one example, enable a better understanding of why some drugs are more effective on particular patients, so that the most effective prescription is written the first time rather than through trial and error. Genomic analysis will also enable doctors to more easily diagnose rare diseases.

"Consumers are expecting the same things to happen in healthcare as happened in the banking, music and travel industries. It is inevitable that over the next 10 years we will see this kind of change in health."

In both Australia and New Zealand e-health has been an area of relative strength. "But I think it would be a big, big mistake to dine out on that too long," McCrae said. "Because the world is about to change and it is going to change really, really fast."

Whatever criticism exists about the tardiness of e-health projects related to patient records, there is little doubt that New Zealand has built genuine expertise in the area. From the Patient Portal to Orion Health's Patient Information Care System and Simpl Health's New Zealand ePrescription Service (NZePs), this is real capability.

The real benefit and the real cost savings of these measures will become more obvious in the next 12 - 24 months, as projects become more integrated.

The harder sell for Prime Minister John Key and the National Government in the run-up to the September election is related to Health Benefits Limited. This wholly-owned government shared services entity was projected to save $700 million over five years.

Even the most optimistic observers say it is unlikely to meet this target. But the critics say pushing back the timetable for meeting a savings target is the least of HBL's problems. The HBL core Finance Procurement and Supply Chain (FPSC) implementation, they say, has gone awry with cost blow-outs already in the tens of millions of dollars and climbing. It is a mess.

Tony Ryall bids farewell to politics

In April, HBL chief executive Nigel Wilkinson was quietly replaced by David Wood, a former New Zealand Treasury deputy secretary. No fanfare, just a new CEO at a critical moment in the implementation of a key technology supporting platform.

Accusations have emerged of serious pressure being applied to the DHBs to book savings and to push any issues related to FPSC implementation problems beyond the September election.

It doesn't help that Tony Ryall is not re-contesting his seat, having announced long ago his retirement from public life at the next election. No wonder Annette King is looking at the Health portfolio and e-health in particular as an issue of competitive advantage for the Opposition (see below).

At least one New Zealand software provider says the pressure is being felt across the sector. He declined to be quoted in this story, saying the risk that complaints would be met with payback was too great in the current environment. Everything was being viewed through the prism of the looming election.

This source points not only to incredible waste, most notably HBLs acquisition of its own Oracle instance on behalf of DHBs when Health Alliance was already running a shared Oracle instance (and not in a small way – it supports the four northern

The HBL sting is in the tail

The problems at Government-owned shared services provider HBL will certainly be an election issue, with deputy opposition leader and health spokeswoman Annette King already flagging e-health as a key battleground. Labour says the HBL issues resonate with voters because health touches everyone – and because King says the Government has not been upfront about rollout problems.

The sting is in the tail. Already into year four of a five year savings programme, HBL will need to book spectacular savings at the back-end to meet its $700 million target.

These are not ephemeral technology problems or intellectually distant issues, King says. Government had promised that savings from the programmes would be ploughed back into the delivery of health services, and voters understand that without the savings, spending on health services will go backwards.

HBL is home to two large IT projects that make up a huge portion of the overall savings the shared services agency is expected to deliver. The first consolidates the IT hardware needs of the 20 District Health Boards and offers an Infrastructure-as-a-Service platform, the bulk of which is being undertaken by IBM. This project consolidates more than 40 active data centres currently in service.

The second project is the FPSC; the back office financials based on the Oracle software platform and being implemented by HBL. This financials project was to provide the centralised back-office grunt that would enable a more streamlined procurement process across the whole of the New Zealand health sector and was to have delivered the bulk of the HBL cost savings.

Warning bells about the project were first sounded when in March a collective group of District Health Board chief financial officers sent a letter to the Chair of the DHB chief executives. The letter was leaked to Annette King.

When a disgruntled employee unloads on the boss, or a politically motivated opponent leaks unsubstantiated damaging material it can rightly be taken with a grain of salt. But these are a group of accountants putting voice to concerns about the implementation of a financial management system. They are hardly revolutionaries.

In the letter the DHB National CFOs Chair Justine White complains about a lack of transparent and timely information from HBL in relation to material changes to the FPSC implementation programme, including to costs, benefits, impacts and risks.

"Specifically, we are increasingly concerned at advice we have received from HBL in relation to benefits erosion, which HBL remain unable to quantify at this time," the letter said. "Cost escalations have also been signalled, but they too remain unquantified at this time.

"A potential delay of at least one, and up to two years for full programme implementation has been advised by HBL, with no available assessment from HBL of the risk that this poses to the continuity of FPSC functions across the health system in the wake of the restructuring which has already occurred."

"Additionally, we are very concerned at the diffuse and opaque accountability for programme decision-making."

These are not the out-of-anger remarks of a political opponent with an axe to grind. They are the considered words of a concerned group of key stakeholders.

Since then, details have emerged that in the two years since the business case for the FPSC programme was developed, its costs have grown from $87 million to $130 million, and the sector is said to have no confidence that it won't further increase significantly.

DHBs – Counties Manukau, Waitemata, Northland and Auckland).

This is one clear example of HBL duplicating costs rather than reducing. He also catalogues missed opportunities for automating other parts of the health supply chain – the low-hanging fruit of manual processes conducted for any number of internal functions inside hospitals.

"There are so many areas that can be unlocked, but this great behemoth [of a project] has gobbled up all the funding," the source said.

"Sure let's save as much money as we can in the back office. But in doing that, let's make sure we utilise the existing applications and services where appropriate, and then direct better funding towards internal parts of the supply chain that also have huge costs."

The source is especially concerned that the District Health Board chief financial officers felt compelled to put their concerns into a formal document when they wrote to the Chair of the DHB chief executives. (The letter was subsequently leaked to Annette King.)

"They are a pretty conservative bunch, and for them to be coming out and saying there is a total lack of accountability and transparency … for a bunch of CFOs to be saying that, you'd have to be pretty concerned, wouldn't you?"

Minister Ryall declined to be interviewed for this story. Instead, through a statement he said simply that information technology was transforming the way doctors, nurses, pharmacists and other health professionals care for patients in New Zealand.

More and more patients are benefiting from quicker and safer care by allowing health professionals to better share their medical information, he said.

"One of the priorities of this Government is to deliver better, sooner, more convenient healthcare – IT initiatives, including patient portals, shared care records, electronic prescribing, e-referrals and telemedicine, are helping us achieve this," his statement said.

"Much of this innovation is a result of the National Health IT Plan. The plan describes the work that needs to be done to provide better information sharing across the health service and improve the quality and safety of healthcare in New Zealand."

"It's about having IT systems which talk to each other and allow patients to have the tools to manage more aspects of their own health."

The health of NZ Health

Health IT and e-health in New Zealand is in pretty good shape despite the emerging troubles from within the HBL shared services programme.

Even the Government's harshest critics acknowledge that there is a lot that the nation's health sector gets right in relation to its technology.

The proof is in the selling: there are few sectors that can boast the level of success that local software providers have enjoyed, both in New Zealand's health sector, as well as those offshore – most notably Australia, Canada and the United Kingdom.

The Minister is probably looking forward to a fond farewell from the Health portfolio where he has been highly regarded. He is unlikely to get it in relation to e-health.

Politics is a tough game. And for all of the positives in the New Zealand e-health sector, there is a giant hairball on the horizon.