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Weaving together
Integrated Case
Management

A provocation for Government

Contents

Introduction

Successive governments have recognised that improving outcomes for individuals, families and whānau requires more effective information sharing and joined up planning across Government, NGOs, iwi and the private sector.

Investments in locally-led mechanisms for collaboration, including the Integrated Safety Response (ISR) and Whangaia Nga Pa Harakeke (WNPH) have demonstrated time and again the benefits of information sharing and joined up delivery across agencies for individuals, families and whānau. However, investment in technology to support integrated case management has stayed a step behind. Technological developments over the past decade, including the rise of artificial intelligence, cloud-based solutions, and new integration and data matching tools, offer opportunities to supercharge locally-led collaboration and person-centred case management in a way not previously possible.

This report paints a picture of the art of the possible, bringing together Deloitte's experience in supporting locally-led social sector collaboration and whānau-centred reform, with our local and global knowledge and experience in the implementation of new technologies. We aim to show you the significant benefits that could be enabled through investment in integrated case management – and to show that, from a technology perspective at least, these benefits are very achievable.

Integrated case management has the potential to be a game changer for families with the most complex needs. Advances in technology make the case for change more positive than it was even five years ago.

Executive summary

Modern technology paired with a greater focus across Government in person-centred, cross-agency approaches and the need to invest in agency case management systems means there has never been a better time for Government to embrace integrated case management.

Integrated case management brings together information from multiple systems – and often across multiple organisations – to enable joined up case management that is centred on the needs of an individual, family or whānau. Forms of it are already in use in a number of settings in New Zealand, including family violence, national security and civil defence emergency management.

The potential benefits of integrated case management are significant:

- **Better outcomes for individuals, families and whānau** as a result of more targeted support, not having to tell their story multiple times, empowering citizens, and better investment decisions

- **Improved efficiency and productivity** as a result of more efficient information sharing resulting in less spend on services that are not required, and fewer agencies needing to engage with individuals, families and whānau on the same topics.

Historically, the barriers to integrated case management have related to concerns about privacy and the effort required to enable systems integration. As a result, case management remains largely siloed within individual agencies, making it difficult to create a single view of an individual, family or whānau. Where integration has occurred, it has done so with highly customised bespoke technology, and often requires a lot of manual data entry.

Recent technological developments mean the barriers to integrated case management are no longer the fundamental inhibitors they once were. Cloud platform technologies,

automated data matching, consent management platforms, new identity and access management tools, and a rise in commercial off-the-shelf case management technologies all offer new ways to bring integrated case management to life.

Achieving the full benefits of integrated case management requires a shift from viewing data as being "owned" by an agency to being "owned" by the individual. Shifting to putting consent at the core of integrated case management, where appropriate, would have significant benefits to individuals, families and whānau, for social service outcomes, and is consistent with principles of Māori data sovereignty.

We have identified four potential approaches to leverage modern technologies to enable integrated case management in New Zealand:

Centralised Monolithic: A single case management system that meets the case management needs of multiple agencies. This approach has been tried elsewhere and it has proven very challenging to create a single system that meets the diverse and ever-changing needs of multiple agencies.

Centralised but separated: A standalone system that holds a copy of information shared by agency case management systems – often which has been manually entered. This approach typically results in duplication of information, and a poor user experience. This approach is unlikely to be suitable in highly complex settings or where large numbers of agencies are involved.

Fully decentralised: At the other end of the spectrum, a fully decentralised approach would use integrations between systems to allow certain data fields to be accessed by staff logging in from their system. This would require the development and maintenance of a significant number of point-to-point integrations across relevant agency systems. A more likely variant of this approach would be to create centralised data stores at a sector level, and then use integrations between sectors to enable information sharing.

Person at the centre: This approach builds on the decentralised approach, putting the citizen at the centre and giving them control of their data, where it is appropriate to do so.

All of these options are in theory at least capable of delivering the benefits of integrated case management. What sets them apart is the cost and complexity of developing and maintaining each as an enduring solution.

Bringing integrated case management to life will require a mandate to do so, recognising that the costs and benefits of investing in this space are unlikely to fall evenly. With multiple agencies embarking on programmes of work to replace or upgrade their core case management systems, the development of Digital Public Infrastructure that builds in principles of interoperability and identity management would make for a prudent social investment.

Overview of different approaches to integrated case management

	Technical Structure					Information Sharing	
	Fully siloed case management	**Centralised Monolithic**	**Centralised but separated**	**Fully decentralised**	**Person at the centre**	**Restricted by default**	**Sharing with consent**
Description	Each agency has its own separate case management system (largely the current state)	A single case management system that meets the case management needs of multiple agencies.	A standalone system that holds a copy of information shared by agency case management systems – often which has been manually entered.	Uses integrations between systems to allow certain data fields to be accessed by staff logging in from their agency's system. A variant could use sector data stores,.	A decentralised approach paired with providing the citizen control of their data, where it is appropriate to do so.	Only data and information that relate to permissible grounds for disclosure under the Privacy Act is shared.	Individuals, families and whānau can approve sharing of additional information about them.
Better Outcomes							
Targeted Support *The provision of services and support based on individual, family and whānau need, rather than agency boundaries*	○	◑	◔	◑	●	✔	✔
Tell Once *Inter-agency information sharing preventing individuals, family and whānau telling their story multiple times*	○	◑	◔	◑	●	X	✔
Empowered Citizens *Enabling individuals, family and whānau to take ownership of their outcomes – less doing "to"; more doing "for" or "with"*	○	○	○	○	●	X	✔
Better Investment *Richer information to inform investment and evaluate impact*	○	◑	◔	◕	●	X	✔
More Efficient							
Reduced Cost of Services *Potential reduction in the overall number and cost of services and supports provided to individuals, families and whānau*	○	◑	◔	◑	●	X	✔
Fewer Cars in the Driveway *Reducing the number of people working directly with an individual, family or whānau by sharing information and collaborating*	○	◑	◔	◑	●	X	✔
Information Sharing *Reducing the time spent manually sharing information between agencies or re-keying between systems*	○	◔	◔	◑	●	X	✔
Complexity & implementability							
Technical Complexity *How technically intricate a technical solution is. More complexity often brings greater risk and has a higher cost to implement and maintain*	LOW	LOW/MED	MED	HIGH	HIGH		

KEY
Extent to which each option would enable the potential benefits of integrated case management to be achieved – when compared to fully siloed agency case management.

Least likely to deliver potential benefits ○ ◔ ◑ ◕ ● Most likely to deliver potential benefits

Integrated case management

Every organisation that works with individuals, families or whānau in a human and social services context – whether a Government agency, NGO, iwi or business – uses case management in some way, shape or form.

Case management is used by organisations to identify and assess needs, match people to and coordinate appropriate services and supports, and monitor and evaluate progress.

The goal of case management systems is to be able to keep a record of this information in a way that can inform future interactions with that individual, family or whānau and, when aggregated with information about other individuals, families or whānau, to make decisions about services and supports at a community level. This varies from complex IT systems – such as the Police National Intelligence Application (NIA) or Kainga Ora's Northgate – through to Excel spreadsheets, manila folders and whiteboards.

Integrated case management brings together information from multiple systems to enable joined up case management that is centred on the needs of an individual, family or whānau. This recognises that, for those individuals, families and whānau with the most complex needs in particular, the best outcomes are achieved when decisions and resources are joined up across multiple systems – and in many cases, across multiple organisations.

What is integrated case management?

Integrated case management covers:

- Identification of individuals, families and whānau with complex needs that would benefit from the additional support provided through integrated case management

- Triage and identification of needs

- Interaction between agencies and providers

- Planning and decision making to provide services and supports

- Monitoring and reporting on progress

- Informing investment and commissioning at a community level

Integrated case management brings together information from multiple systems – and often across multiple agencies – to enable joined up case management that is centred on the needs of an individual, family or whānau.

Integrated Case Management

Snapshot of case management solutions across key government agencies

Across the key agencies with responsibilities for the wellbeing of individuals, families and whānau there are a range of case management solutions currently in play. A significant number of these are likely to require significant investments in upgrades or replacements in the next decade – providing a timely opportunity to look now at how these systems might be integrated into the future.

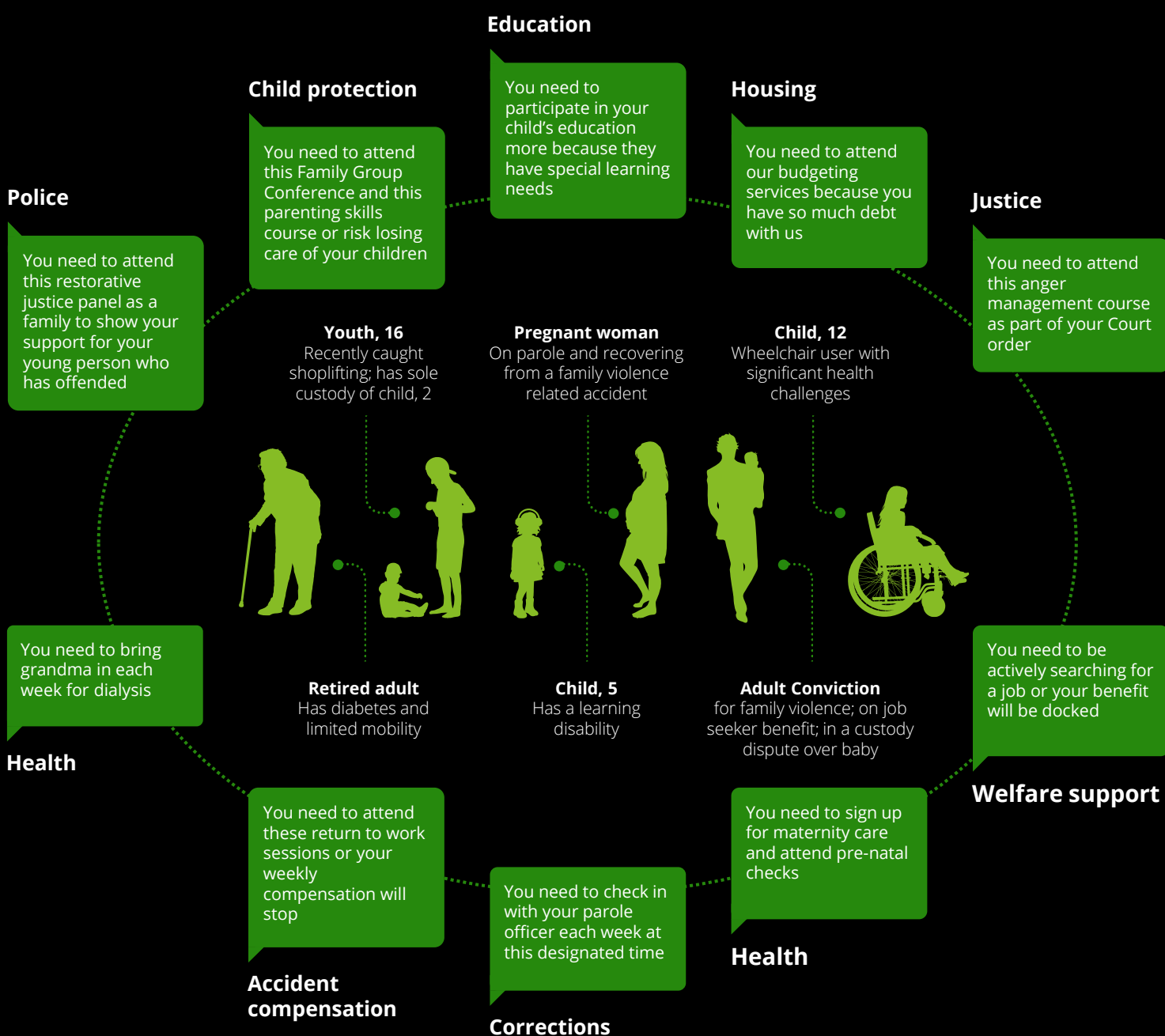| Agency	System	Cases managed	Current status
MSD	SWIFTT Curam	Around 1.5m people who receive benefits or other support from MSD, including superannuitants and student loan recipients[1]	Budget 2023 approved $100 million for Te Pae Tawhiti Programme to deliver a new service model enabled by modern digital technology[2]
Oranga Tamariki	CYRAS Caregiver Information System (CGIS)	Around 70,000 children, young people, their families and caregivers[3]	The Frontline Technology Systems Upgrade (FTSU) is a multi-year programme to modernise frontline technology systems, including the gradual replacement of CYRAS.[4]
ACC	FINEOS and Salesforce	People who have been injured or had an accident – approx. 2 million claims per annum[5]	ACC has invested significantly in modernising its case management systems in recent years as part of its Next Generation Case Management Programme[6]
Kainga Ora	Northgate	Around 25,000 applicants[7] and 200,000 tenants[8]	A significant upgrade was undertaken in 2020-21[9]
Police	National Intelligence Application (NIA)	People Police interact with, including offenders, suspects, witnesses, victims – around 3.4 million interactions per annum[10]	This system requires "significant modernisation"[11]
Ara Poutama Corrections	Integrated Offender Management System (IOMS)	Around 60,000 people who have offended, are on remand, parole or on a community sentence[12]	The Modern Prisons (Digital) Programme seeks to shift from an analogue and paper-based system to a "modernised digital environment"[13]
Justice/Courts		Cases before Courts and tribunals – of which there were 1.2 million events in just the High Court and District Courts in 2022/23;[14] around 80,000 applications for legal aid per annum;[15] collection of unpaid infringements, fines and reparations	Te Au Reka will be a new digital case management system. Implementation is underway, starting with the Family Court.[16] It replaces "paper files and outdated, inadequate and unsupported hardware and software"[17]
Health	National Enrolment Service (NES)	4.98 million people who are enrolled with a general practice, linked to NHI number.[18] *There is no single patient case management system – Patient Management Systems (PMS) are provided by a number of private sector technology providers.*	A National Data Platform (NDP) is under development to aggregate health sector data[19]
Education	ENROL Electronic Qualifications Authority (eQA)	Around 830,000 children and young people enrolled in a school or kura,[20] and qualification information for around 160,000 young people[21] *There is no single education sector case management system – individual schools and tertiary institutions use private sector learning management systems.*	NZQA is looking to transition off eQA as part of a modernisation programme of work.[22] It is in the process of identifying a new solution[23]
Inland Revenue	START	Around 4.2 million taxpayers and 110,000 parents liable for child support[24]	IR recently spent $1.3b on a new core tax engine, and is in the process of shifting it to the cloud.
Immigration	ADEPT	Visa applications and management	ADEPT was launched in March 2022;[25] Immigration NZ continues to migrate products onto the platform.[26]
NGOs and iwi	Various	Various private sector case management solutions	

Why integrated case management?

Individual organisations will often look at an individual, family or whānau through the lens of the interventions they can provide (eg housing, income assistance, access to certain services) – and it is left to the individual, family or whānau to join all of these services together in a way that makes sense for them.

For most New Zealanders, this is not a problem. For those with complex and chronic needs – be it in the aftermath of a natural disaster or a family experiencing intergenerational poverty – a different approach is required if effective, sustainable change is to be achieved.

For individuals, families and whānau with complex needs that cannot be met by any one Government agency, NGO, iwi or private business, navigating the system to find the services and supports that will work for them can be very challenging.

Navigating Government agencies can be a fulltime job for **families with complex needs**

Education

Child protection

Housing

You need to participate in your child's education more because they have special learning needs

You need to attend this Family Group Conference and this parenting skills course or risk losing care of your children

You need to attend our budgeting services because you have so much debt with us

Police

Justice

You need to attend this restorative justice panel as a family to show your support for your young person who has offended

You need to attend this anger management course as part of your Court order

Youth, 16
Recently caught shoplifting; has sole custody of child, 2

Pregnant woman
On parole and recovering from a family violence related accident

Child, 12
Wheelchair user with significant health challenges

You need to bring grandma in each week for dialysis

You need to be actively searching for a job or your benefit will be docked

Health

Welfare support

Retired adult
Has diabetes and limited mobility

Child, 5
Has a learning disability

Adult Conviction
for family violence; on job seeker benefit; in a custody dispute over baby

You need to attend these return to work sessions or your weekly compensation will stop

You need to sign up for maternity care and attend pre-natal checks

You need to check in with your parole officer each week at this designated time

Health

Accident compensation

Corrections

Benefits of integrated case management

Reviews and evaluations of locally-led social sector collaboration initiatives have widely demonstrated the significant benefits that come from working with individuals, families and whānau in a joined up way.

Outcome evaluations have found collaborative approaches have led to reductions in reported family violence instances by 15% in Counties Manukau, 19% in Tairāwhiti, 15% in Auckland and Waitematā, and 20% in Dunedin.[27] These reviews have been consistent in calling for further investment in technology to support information sharing and integrated case management.

A 2017 evaluation of Integrated Service Responses (ISR)[28] noted the benefits of increased transparency arising from the pilot case management system resulting in improvements in performance, and in ensuring people did not fall through the gaps. The evaluation also noted that "perceptions of ISR were greatly influenced by the performance of the Case Management System (CMS)" and that improvements were required to reduce administrative burden and to get the most from it.

A 2019 evaluation of Place-Based Initiatives[29] identified the need "for more support and resources to develop a data and information sharing interface", noting that "data collation is a time-intensive process".

The benefits of integrated case management are most profound for those individuals, families and whānau with the most complex needs.

These are often the people whose lives are most chaotic, and who find it difficult to organise their needs according to the way the public service structures its service offerings. A Danish approach works with the 400 families representing the greatest spend by government at any time across social services to provide integrated case management, resulting in improvements in educational and workforce participation, and an overall reduction in spend on social services with these families.[30]

Better outcomes for individuals, families and whānau

- **Targeted support:** Services and supports that are targeted based on an holistic assessment and prioritisation of the needs of an individual, family and whānau

- **Tell once:** Not having to tell their story multiple times to people from different agencies by allowing information collected once to be used multiple times

- **Empowered citizens:** Greater opportunity to empower individuals, family and whānau to take ownership of their outcomes – less doing "to"; more doing "for" or "with"

- **Better investment:** Richer information to inform investment and service commissioning within communities, and to evaluate which services and supports are having the greatest impact on outcomes

For children and young people at risk of abuse, neglect or offending, information sharing increases the likelihood of early warning signs being identified, and integrated planning increases the likelihood of early interventions being successful.

Efficiency and productivity

- **Reduced cost of services:** Potential reduction in the overall number and cost of services and supports provided to individuals, families and whānau; the Danish approach found many of the families it worked with were being "overserved" by agencies with competing goals for the family, and saw a sustained reduction in spend per family as a result of joined up planning

- **Fewer cars in the driveway:** Joined up planning can reduce the number of people working directly with an individual, family or whānau by sharing information and collaborating in the background. This has efficiency benefits for agencies that have case management roles

- **Efficient information sharing:** More efficient information sharing, reducing the time spent manually sharing information between agencies or double-keying the same information into multiple systems.

What sort of information are we talking about?

- Proof of address, income, employment status

- Relationships between individuals, and within families and whānau

- Relationships held by Government, NGO and iwi with the individual, family or whānau

- The self-identified goals and aspirations of the individual, family or whānau

- Identified health, education and social needs

- Services and supports being provided to this individual, family or whānau – including key dates

- Government decisions and determinations that relate to this individual, family or whānau (including benefit entitlements, Court orders)

- Past interactions and planned future interactions

- Tracking of progress against goals and wellbeing needs over time

- Identified concerns that have not reached a threshold for formal reporting

- Potential health and safety risks to workers engaging with this individual, family or whānau

Integrated case management in New Zealand today

Integrated case management today in New Zealand largely occurs "offline" via phone calls and face-to-face meetings.

The limited technology-enabled examples that do exist use centralised solutions, which can be expensive to maintain, and have the potential to create privacy and security risks by storing large amounts of data from multiple agencies together in one place.

Manual approaches to integrated case management are resource intensive and inefficient. The time required to share information in these forums leaves little space for joined up planning and case management, which can come secondary to the focus on information sharing. Safety Assessment Meetings – which bring together practitioners across agencies and NGOs are a good example of this.

Technology-enabled integrated case management has occurred through the development of centralised solutions. The Family Safety System is one such example, which is used to share information about people who have come to Police attention as having experienced or being at risk of family harm.

There are two main patterns of integrated case management in use today using legacy technologies:

1. Centralised monolithic

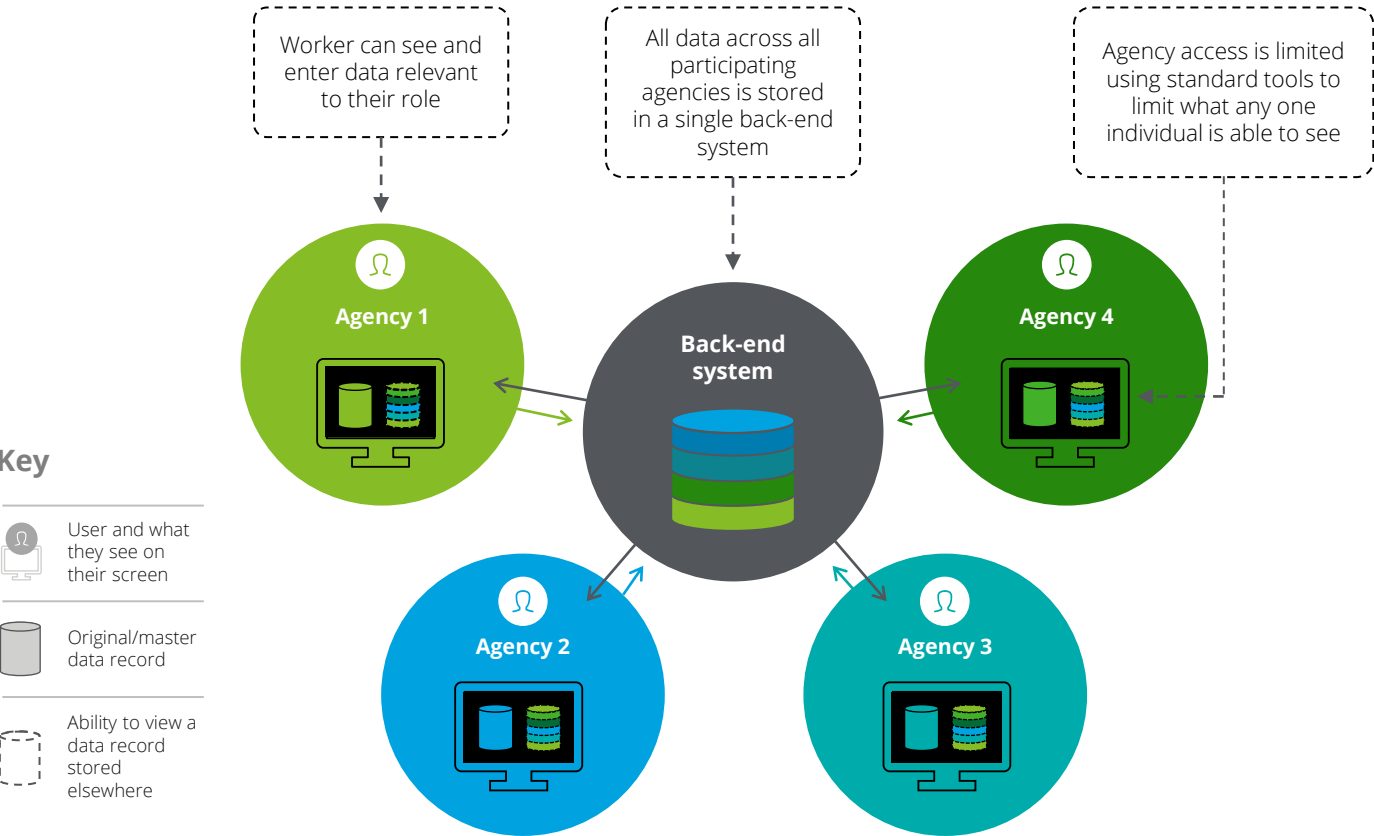**2. Centralised but separated**

Centralised monolithic
A single case management system to meet
the needs of multiple individual agencies.

The centralised monolithic approach to integrated case management is the one that most immediately springs to mind for many people. It is simple in concept – and in theory is capable of delivering all of the functionality and benefits required of an integrated case management solution. It is easy to imagine such system replacing multiple individual case management systems across a sector.
However, while simple in concept, the ability of a single system to meet the needs of multiple individual agencies introduces significant complexity to the way in which the system operates – and in practice, has shown to result in a system that doesn't really meet the needs of any individual agency well.

The Government of British Columbia sought to adopt this approach, creating a single integrated case management system, which multiple agencies would have access to, and which would replace 50 individual agency case management systems. A 2015 review by the Auditor General[31] found that the implementation had run over budget, and only a third of the legacy systems had been migrated onto the integrated system. Significant issues with data management and privacy were encountered, and the resulting system did a poor job of meeting the day-to-day needs of any one agency. To date this approach has not been adopted in New Zealand.

Centralised monolithic approach to integrated case management

Worker can see and enter data relevant to their role

All data across all participating agencies is stored in a single back-end system

Agency access is limited using standard tools to limit what any one individual is able to see

Key

User and what they see on their screen

Original/master data record

Ability to view a data record stored elsewhere

Agency 1

Agency 4

Back-end system

Agency 2
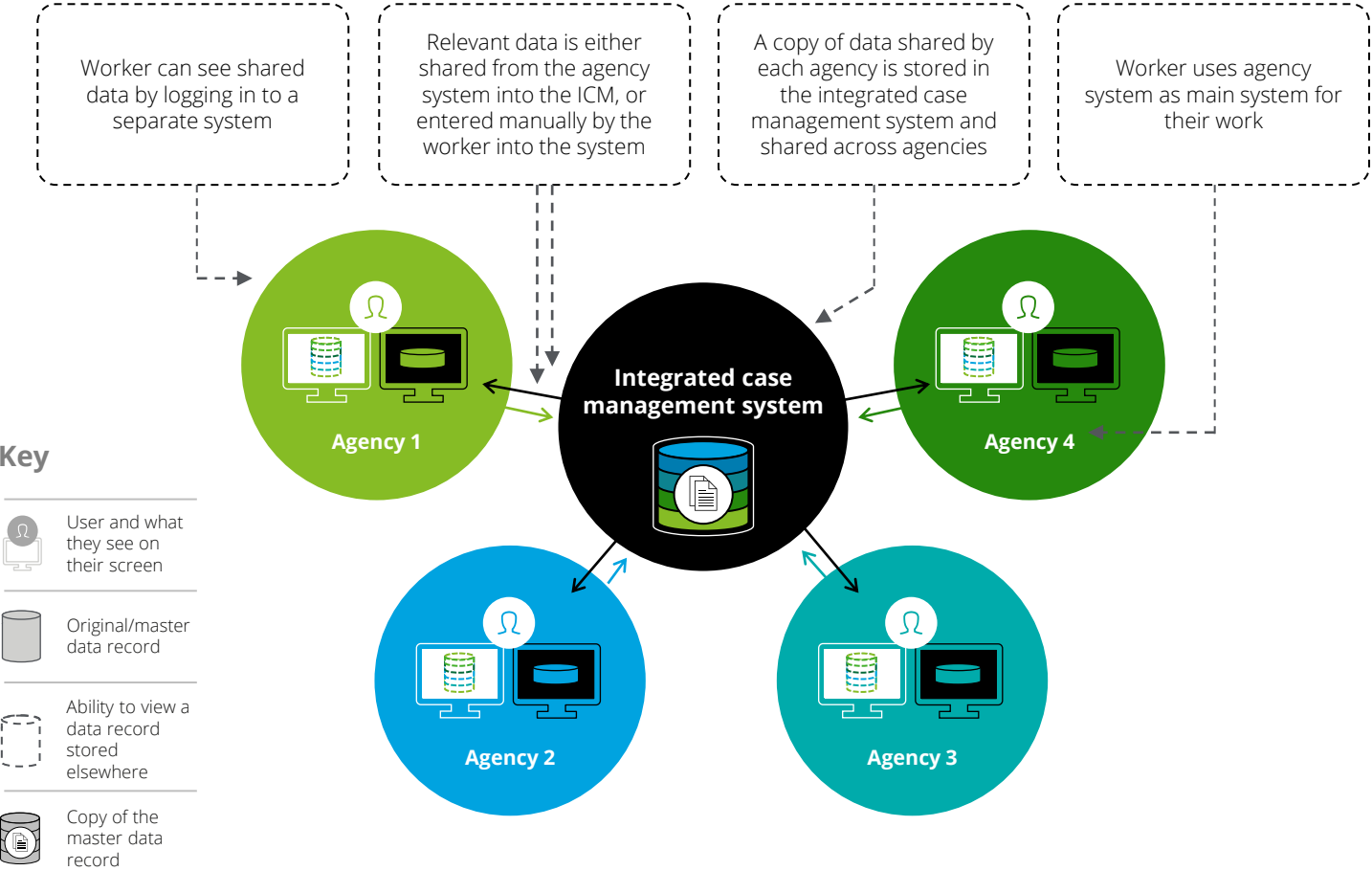
Agency 3

Centralised but separated

A separate case management system that holds a copy of information shared by individual agencies.

To the extent technology has been used to enable integrated case management in NZ today, it has been through the creation of separate case management systems, which multiple agencies have access to, but which does not replace agencies' own case management systems. These include the Family Safety System, which is used to share information about people who have come to Police attention as having experienced or being at risk of family harm, and Āwhina, which is used to coordinate welfare responses for people impacted by a civil defence emergency.

With this model, there is typically a lead agency, which takes on responsibility for the implementation and ongoing maintenance of the solution. The solution is often well integrated back to that agency's core case management system – but typically relies on manual data entry by other frontline workers in other agencies, rather than integrating across case management systems. As a result, uptake and use of these systems can be low, and the data is often not complete, and therefore cannot be used reliably for reporting and analysis.

The need for joint investment and long-term planning across agencies to support and maintain the system can create additional challenges in a siloed agency environment, meaning the burden of this responsibility often falls to the lead agency.

Centralised but separated approach to integrated case management

Worker can see shared data by logging in to a separate system

Relevant data is either shared from the agency system into the ICM, or entered manually by the worker into the system

A copy of data shared by each agency is stored in the integrated case management system and shared across agencies

Worker uses agency system as main system for their work

Integrated case management system

Agency 1

Agency 4

Agency 2

Agency 3

Key

User and what they see on their screen

Original/master data record

Ability to view a data record stored elsewhere

Copy of the master data record

A changing environment

Technology has come a long way in the past five years alone. The examples of integrated case management that we have today were built on technology that is now out of date.

The increased capability and security of cloud-based solutions, the introduction of new tools like artificial intelligence, and the development of new platforms to enable integration between systems have fundamentally shifted the technology landscape. These technical developments would provide local collaborative initiatives with greater flexibility to innovate in the way in which they deliver services in a joined up way to their communities.

Cloud platform technologies

When solutions like the Family Safety System were first developed, most agency solutions were hosted on premise. Today, a critical mass of agency case management systems are hosted in the cloud, which enables the use of Application Programming Interfaces (APIs) and other similar tools – a tried and true way of communicating between two systems to share data in real time.

Automated data matching

The development of data matching tools makes it possible to match records across different systems, even without a unique identifier. While these tools are not fail-safe, they can significantly reduce the need for frontline workers to manually match records between systems. This makes it possible for an integrated case management system to identify with a reasonable degree of accuracy the records across multiple systems that relate to a particular individual.

Identity and access management

Role-based identity and access management tools provide additional control over who is able to access which data.[32] This provides an essential additional level of assurance and control to agencies over who can access their data – and paves the way to allow appropriate access to NGOs, iwi and private sector entities.

The emergence of consent management platforms is putting control of how data is shared back in the hands of citizens.

Commercial Off-The-Shelf (COTS) Technologies

The rise of light-weight, sector-specific COTS applications that are easy to configure and quick to implement.

In addition, the past ten years has seen several key shifts within the technology industry and across the New Zealand government:

Sector level mandates and funding

Changes to the Public Finance Act, Public Services Act and an increase in budgeting at a sector level have all created more impetus for collaboration across traditional agency boundaries

The rise of person-centred design

The rise of disciplines like user experience design and human-centred design have highlighted the importance of and benefits that come from putting a customer, client or user at the centre of a solution

A refocus on social investment

A change in Government has refreshed the concept of social investment, which includes a focus on investment in evidence-based solutions

The need to invest in agency case management systems

Almost all agencies with major case management systems are looking at significant investments to upgrade or replace their case management technology in the coming decade, including MSD, Corrections, Police, Oranga Tamariki and others. Thinking about integrated case management ahead of these major investments is likely to ultimately save money and deliver greater value in the longer run

The case for investing in integrated case management is significantly more positive than it was even five years ago. Technology is no longer the barrier to enabling effective integrated case management.

A modern approach to integrated case management

Modern technologies have created new opportunities for integrated case management, which have the potential to be game changers for the way in which information sharing and joined up planning occurs between agencies

We have identified four possible technological approaches to integrated case management that warrant further consideration by Government:

1. Lightweight case management

2. Decentralised approach

3. Sector decentralised variant

4. People at the centre

To realise the full benefits of integrated case management, Digital Public Infrastructure[33] is necessary to create the foundations and environment that will allow it to work. It is unlikely individual agencies working collaboratively will be able to give effect to the full benefits of integrated case management without this core level of digital infrastructure.

Digital Public Infrastructure

Digital Public Infrastructure recognises that for Governments to meet their digital transformation goals there is a set of foundational building blocks that must exist for agencies and the wider economy to be able to work together efficiently for the betterment of citizens. This includes:
- Government services front door (discovery and fulfilment)
- Digital identity verification
- Data sharing
- Payment infrastructure

This a concept that has been widely adopted across Europe and is the driving force behind initiatives such as "One-Only", which is dramatically simplifying digital engagement and commerce across Europe.

Lightweight case management
Similar to the centralised but separated approach, but utilising off the shelf products with standardised integrations.

The past few years have seen a rise in the development of social sector specific, configurable cloud-based case management solutions that have been designed to be used by practitioners across multiple agencies. These offer the best solution to support intensive multi-agency wrap around support for those individuals, families and whānau whose needs are most complex.

When integrated with core agency case management solutions, these would form a similar pattern to the "centralised but separated" approach described earlier.

These products have been designed with privacy and security at the core, and require minimal configuration to be set up and ready to go they have analytics and reporting tools built into them. ECINS[34] is one such example of this – developed in Australia, and used around the world in multi-agency social sector settings.

This approach offers what is essentially "FSS 2.0" – a light weight, easily configurable, off-the-shelf alternative to the bespoke legacy solutions in place today. It follows the same architectural pattern described above for the centralised "separate but equal" approach. While application programming interfaces (APIs) can be used to connect these products to agency core case management systems, where this is not possible, practitioners would still be required to manually enter information into two systems. Practitioners may also still need to log-in to a separate system to see the combined case record.

For these reasons, there are limitations to the usefulness of this approach. While these products are likely to be a useful tool to support local collaborative approaches, they are unlikely to scale well on a national level, or to manage large numbers of case records. Similarly, the manual overhead that would still be required to enter data into a separate system means it is best suited to settings

where there is a commitment to collaboration across the agencies involved – it is not likely to work well in settings where there are different levels of commitment or only lighter-touch collaboration is required.

One of the advantages of this approach is that such products can be configured in different ways to meet the different needs of different communities. Through various local collaborative approaches we have seen there is no single "best" way of working collaboratively to support individual, communities, and whānau with complex needs. What works in Tairawhiti means that looks very different from what works in South Auckland.

While this approach is not a long-term or sustainable solution to deliver the full benefits of integrated case management, it may be a useful tool to achieve some benefits in the short-term.

Decentralised approach

1:1 integrations between systems to allow certain data fields to be accessed by staff logging in from their agency's system.

A decentralised approach would allow frontline workers to be able to see a joined up view of information about an individual, family or whānau to inform integrated planning across agencies. Privacy and security is still managed by each agency – and because data is not "copied", means the security risk created by a single, centralised store of data about individuals is reduced. Frontline workers only need to enter information once – in their own agency's case management system – removing the manual data entry or duplication of effort often required as part of centralised solutions, and reducing the likelihood of information becoming out of date. Frontline workers can

view the shared information in their agency's case management system, removing the need to juggle multiple systems.

This approach relies on an "integration layer" to bring information together at "the glass" – i.e. when a person needs to look at it. Integration layers like this are widely used within agencies across Government to aggregate information across multiple systems for reporting and operational purposes. It is commonly used within agencies to bring their different internal systems together to create a fulsome view of a certain subject.

An integration layer like this will work with whatever different systems agencies, NGOs, iwi, and private businesses are already using – they do not need to be using the same case management system. There are multiple technological ways of achieving this – APIs being a common example. These can be changed with relative ease, making such an approach more robust and agile in an environment where agency case management systems are constantly changing.

A significant benefit of this approach is that only information that is actually needed is shared, and it is only shared for the duration

Decentralised approach to integrated case management
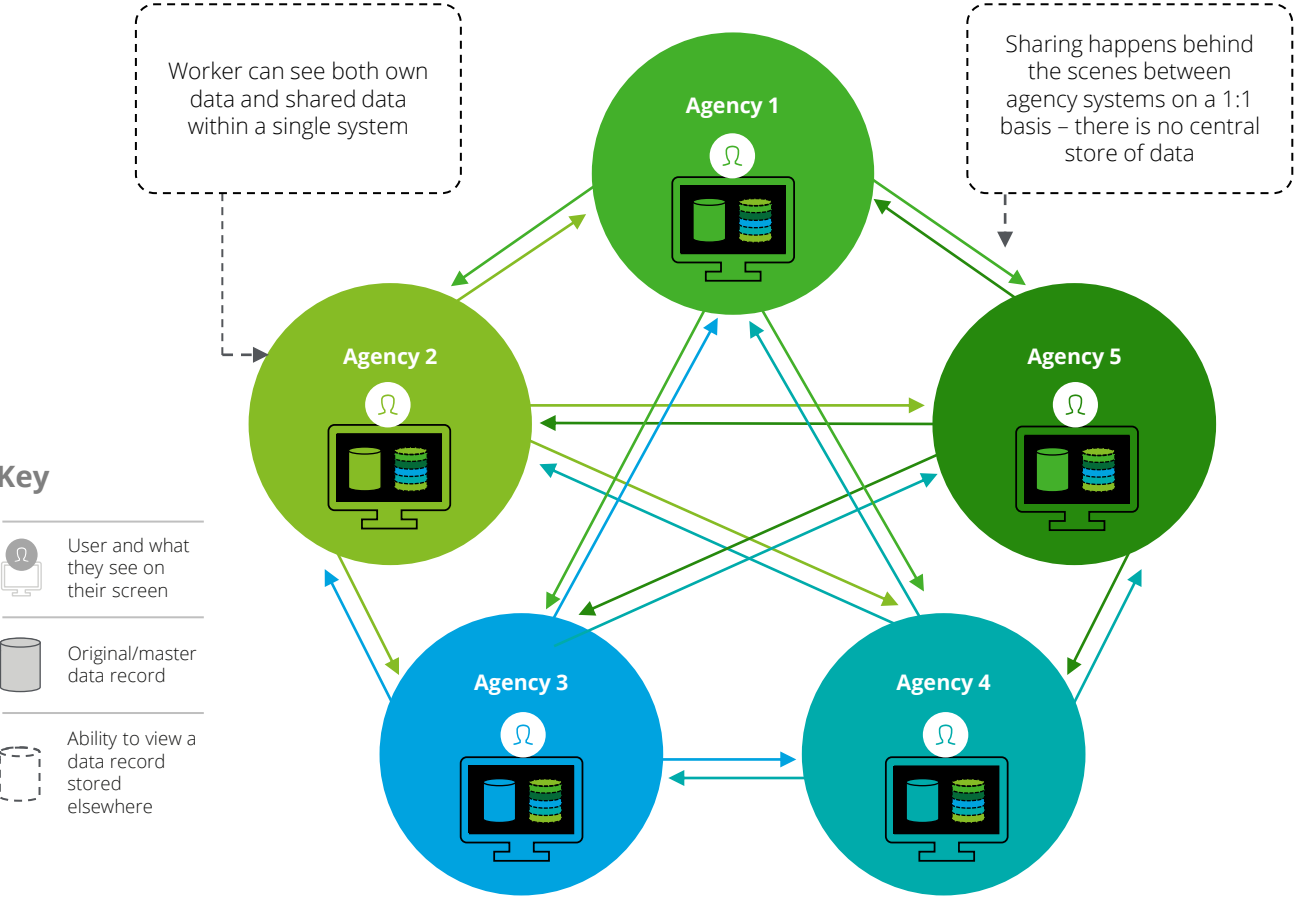
of that need. This prevents the need for large datasets to be held by agencies just-in-case, and the security and privacy risks associated with holding such datasets.

In the context of permissible disclosures in accordance with the Privacy Act, a decentralised approach has clear benefits. The development of standardised APIs for use by iwi, NGOs and the private sector would allow non-governmental organisations to share appropriate information – although the ability for these organisations to view the aggregated data would still require consent of the individual concerned. Inland Revenue offers a good example of how this can work in practice – with a number of software solutions having developed to integrate seamlessly with the tax system.[35]

The downside of this approach is the amount of coordinated effort that would be required to create the necessary interfaces between agency systems. While technically feasible, the governance and level of inter-agency collaboration that would be required to enable this would be challenging.

Sector decentralised variant
The more likely variant of this approach would be the creation of a set of centralised data stores within each sector, with integrations between each to enable information sharing more widely across agencies.

This approach incorporates the benefits of the decentralised approach described above – no single, central store of data, integration "at the glass" to provide a seamless user experience, and the ability to integrate with non-governmental case management solutions.

It would be simpler to implement – a sector-by-sector approach could be adopted, rather than requiring coordination implementation activity across all agencies with a human and social services focus. Notional sectors for this purpose could include social, justice, health and education. Integrating between centralised, sector data stores would require fewer integrations to be maintained than the number that would be required in a fully decentralised approach.

Case study
Consumer Population Identification and Registration (CPIR)

The Consumer Population Identification and Registration solution was developed in the context of the response to the COVID-19 pandemic. CPIR aggregated information held about New Zealanders across multiple health systems and across multiple organisations in order to create targeted and personalised communications to individuals across multiple channels for the purpose of screening, contact tracing, care in the community and to encourage vaccination.[36]

The solution has since evolved further to support information sharing in other domains within the health sector. This includes the development of CanShare, which will support clinical and patient decision making at the point of care by collating information onto a single platform from multiple independent registers.[37]
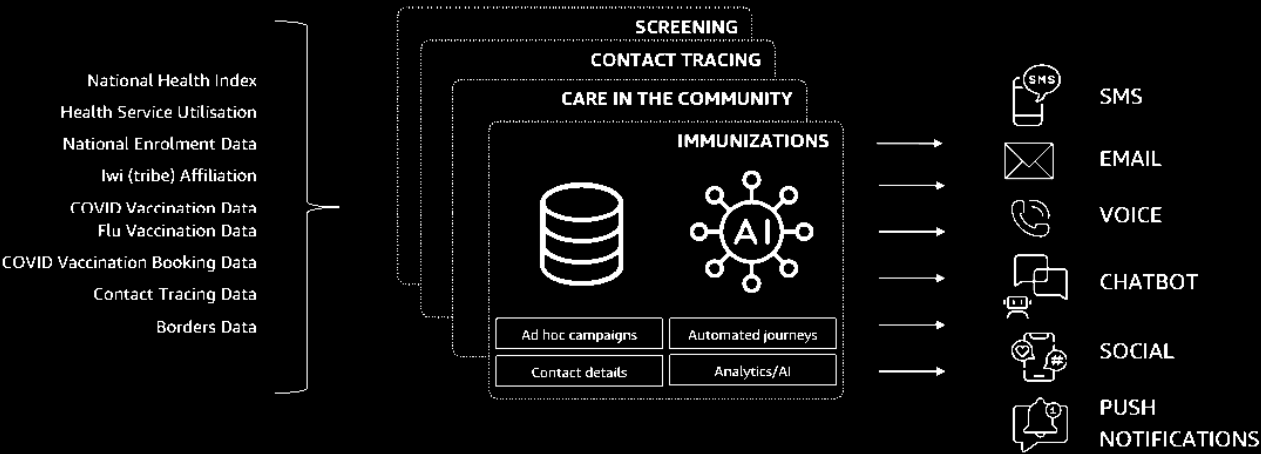
Putting people at the centre

To achieve the full benefits of integrated case management – regardless of the technology approach adopted – individuals, families and whānau need to be brought to the centre.

This requires a shift in the way in which ownership of data about an individual, family or whānau is viewed. Shifting from viewing data as being "owned" by an agency to being "owned" by the individual will enable the full benefits of technology-enabled integrated case management to be achieved.

Research has consistently shown that meaningful and sustainable change occurs when it is driven by the person to whom it pertains. Therefore, individuals are more likely to experience positive outcomes when they actively participate and consent in the planning and decision-making processes that directly impact their lives.

This means giving ownership of data – and control over who has access to it – to the person to whom it relates. The Government's Digital Identity Services Trust Framework[38]
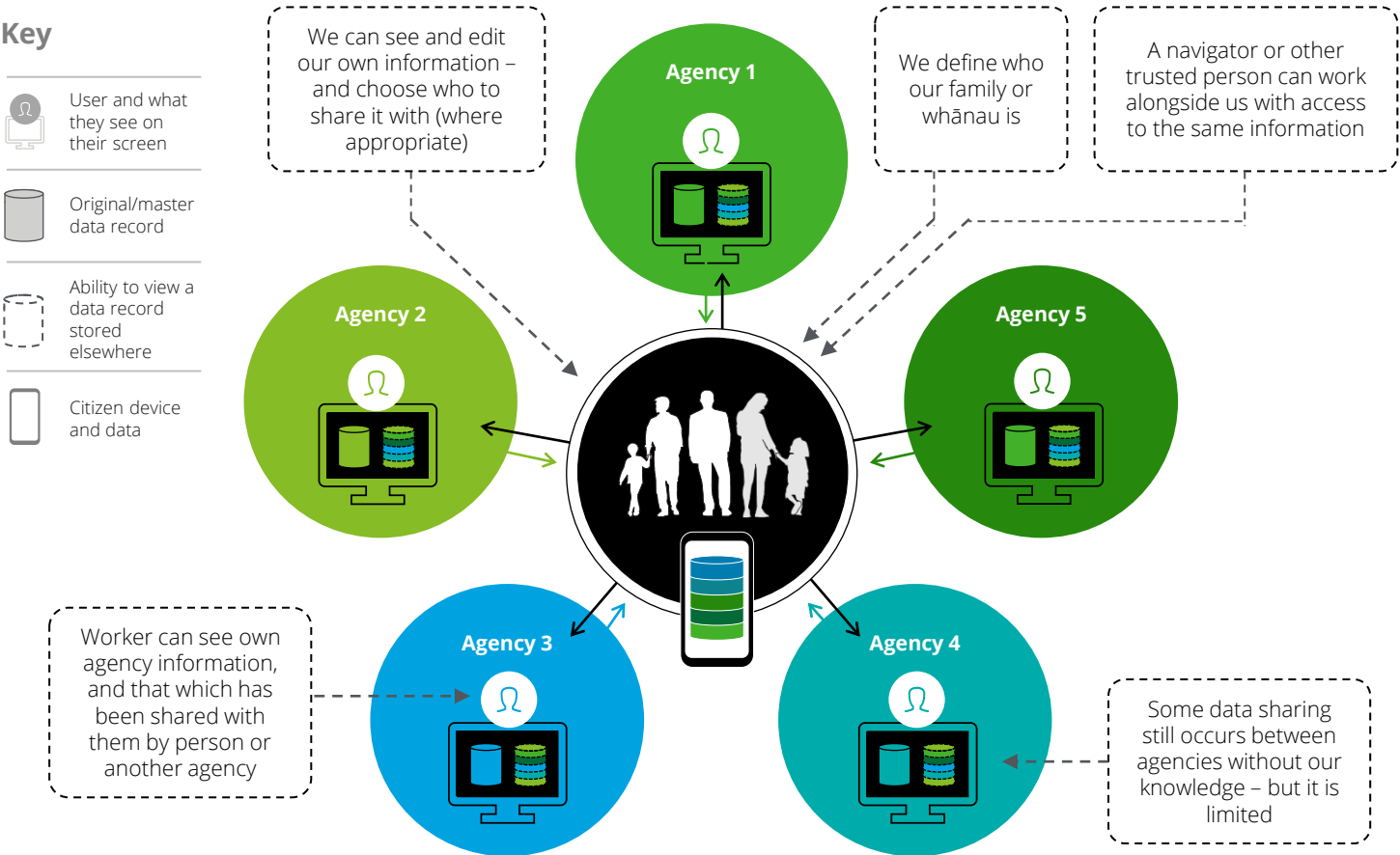
supports a principle of consent as being at the core of all information held by Government, and shared between agencies. There are a number of examples of this in practice, both in New Zealand and overseas:

1. The Federated Farmers digital farm wallet:[39] a technical solution providing farmers with control of information about their farm, including about crops, animal welfare and the environment. Farmers can then share this information securely – via the app – with various institutions, including banks, councils and regulatory bodies. It allows farmers to collect information once to be shared for multiple purposes – while retaining overall control of their data.

2. The Danish 400 families approach:[40] families that participated in this

information sharing initiative did so on an opt-in basis. In opting in, they provided permission for information about them to be shared across different agencies. An evaluation of the model found that very few families declined to participate, as the benefits to the family from doing so were evident to the families involved.

There are multiple technologies that can achieve this goal in conjunction with a decentralised model of integrated case management, including digital wallets, apps and customer portals among others.

Such technologies support the shift of data ownership and sovereignty to the individual. Much like a physical wallet holds key information about you that has been verified by credible institutions – your driver's licence,

Decentralised model of integrated case management paired with data ownership

Key

- User and what they see on their screen
- Original/master data record
- Ability to view a data record stored elsewhere
- Citizen device and data

We can see and edit our own information – and choose who to share it with (where appropriate)

We define who our family or whānau is

A navigator or other trusted person can work alongside us with access to the same information

Agency 1

Agency 2

Agency 5

Agency 3

Agency 4

Worker can see own agency information, and that which has been shared with them by person or another agency

Some data sharing still occurs between agencies without our knowledge – but it is limited

bank cards, library and store membership cards – such technologies hold verified information about you in a digital form. This could be anything from your date of birth and address through to proof of your employment and income. When linked through to agency case management solutions this information can be verified in a way that others in future can rely upon it as credible.

These technologies provide ownership and control of data to the individual. It allows the individual to decide which agencies can view what information about them – and to be able to see a single view of their data in one place. An agency, iwi or NGO can use it to request access to information.

This doesn't mean all information held by Government would be shared with the person to whom it pertains – for example, information that relates to an active investigation or legal proceedings would still remain confidential to an agency. Nor does it mean that consent would be required in all instances before information could be shared – the Privacy Act provisions that allow for the disclosures where there is a risk of harm (including family and sexual violence, child protection and national security) would still allow for this.

People may choose to give their consent for a variety of reasons. One of the main reasons is they can clearly see the benefits that come with providing their consent. Benefits to individuals include:

- Avoiding the hassle of having to share their information multiple times, such as providing proof of address, bank account details, income, etc.

- Having a single, cohesive plan that covers their support needs across multiple agencies, rather than multiple, often disjointed and at times contradictory plans with individual agencies.

- Being able to more easily involve iwi or other people they trust in the planning process.

- The potential to reduce the number of interventions that are done "at" individuals

- Having a greater sense of control over their lives and decisions by being empowered to play playing a more central role in defining their goals and priorities

Trust is something that can only come with time. Providing assurances – and implementing guard rails to back up those

assurances – that information will only be shared for the purpose related to providing services and supports, or in accordance with the Privacy Act, will be critical. That means ensuring such information is not used to support criminal investigations or to take other punitive measures against an individual, family or whānau.

Trust will also come through coupling information sharing with empowerment of iwi and community providers – those who know the individual, family or whānau the best – to take a lead role in working with them to plan for their wellbeing. This will require agencies to place trust in such "navigators", and to act in accordance with the goals and priorities set by them and the individual, family and whānau.

The success of ManageMyHealth[41] points to the willingness of New Zealanders to agree to sharing their information when the benefits of doing so are apparent. ManageMyHealth is a private sector solution that has been widely adopted by general practice clinics across New Zealand. This provides a single, digital repository for an individual's health records – at least all of them that have been shared with their GP – and provides the individual with the ability to correct information held about themselves and to communicate with their GP clinic. ManageMyHealth provides a good example of putting the individual at the centre of their own information – and showing how privacy and security can be managed to enable this. However, it does not take the next step in terms of coordinating provision of services and supports across multiple providers.

There need not be a single approach across Government – the Government's new Identity Trust Framework proposes an accreditation approach for any number of providers to offer such a service. This would provide additional choice to individuals – and create opportunity for New Zealand technology providers.

It will not always be appropriate to give ownership of data to the individual. There will continue to be settings in which information sharing without the knowledge of the individual concerned will be necessary, in accordance with the provisions of the Privacy Act. Technology can continue to play a role in streamlining and improving the way in which this information sharing occurs. However, it is when mindsets about consent and ownership start to shift that the real benefits of integrated case management are able to be achieved.

Integrated case management and Māori data sovereignty

Integrated case management has the potential to enable Te Mana Raraunga's aspiration for Māori data sovereignty to be realised.[42] A key goal of Māori data sovereignty is providing Māori with access to data at different levels – whether whānau, hapu or iwi – to enable Māori to make informed choices to realise their aspirations. By putting consent at the centre of case management, this can dovetail in with consent to share that same information others in the individual's whānau – and with their iwi or hapu.

More than any Government department or NGO, iwi and Māori are best placed to support meaningful, sustained change for Māori, and to take an holistic and long term view of an individual, family or whānau. Integrated case management can unlock iwi and Māori led solutions by supporting the development of an evidence base of what works; and iwi and Māori solutions can unlock the benefits of integrated case management by pairing information sharing and joined up planning with awhi, tikanga and mana motuhake.

Shifting from viewing data as being "owned" by an agency to being "owned" by the individual will enable the full benefits of integrated case management to be achieved.

Unlocking changes in service delivery

Improved integrated case management technologies would unlock opportunities to improve service delivery – particularly in joining up responses across agencies.

These technical developments would provide local collaborative initiatives with greater flexibility to innovate in the way in which they deliver services in a joined up way to their communities. This might include:

Who holds the relationship with the individual, family or whānau: different models today include navigators, assignment of a Lead Agency or Lead Practitioner, and co-response models. Increased information sharing would increase visibility of each agency's actions, which in turn would build the trust necessary to allow one practitioner to step back and let another take the lead

How joint planning and accountability occurs: today's models are largely based on in-person meetings to share information and agree next steps. A single source of the truth and mechanisms to record and manage joint plans would enable more continuous models of collaboration and accountability, and free up time and space for more strategic and forward focused discussions when practitioners come together in person. Again, this might look different in a high-volume metro environment than a more rural area.

Service commissioning and performance management: integrated case management could unlock the data and information necessary to inform new approaches to social sector relational commissioning that is locally-led. Again, this might look different across the country – but with the confidence that local commissioning models are based on a credible intelligence base.

A joined up approach

Case management that is centred on the goals and aspirations of the family or whānau will result in fewer, more targeted services and supports, which are more likely to result in successful outcomes.

Police
We will share your aspirations and plan with the panel so they can see what is already happening to support your young person.

Oranga Tamariki
We help you out with transportation to get the kids to school. This will also allow us to keep an eye on them and ensure they are safe.

Iwi/Church
We have a free after school programme your kids can attend. We can also pair your 16 year old up with a mentor

Food bank
We can provide you with regular food parcels while you are getting back on your feet so you can save money on food

Justice
We can see there are other interventions in place and that this course is a lesser priority for you right now.

Education
We can access learning support services to provide additional support to your kids in the classroom. We also have a teen parenting unit that can support your 16-year old to restart their education.

Health
We can arrange transportation for grandma for her appointments. We can also help with health support for your children's health needs that they can access while at school.

Our kids are the most important thing to us.
Our priority is for the kids to be settled in school. That is a significant source of stress for us at the moment.

ACC
Our return to work therapist will visit you at home at a time that works around your other commitments

Corrections
We will schedule these check-ins around school hours so they are easy for you to attend

Health
We can arrange for these checks to happen at your home so you don't have to arrange childcare

MSD
We can provide access to childcare for baby so you have time to attend interviews

Kainga Ora
We recognise you have a lot going on right now, so won't require to you to attend this budgeting service. We will put a note on the file for our Tenancy Managers to keep an eye out for you.

Bringing it to life

While technology is no longer the barrier to enabling effective integrated case management, there are a number of components that need to be put in place to achieve the benefits.

This requires a coordinated approach across Government to ensure the right foundations are in place to build upon.

This is the true challenge of giving effect to integrated case management: creating the mandate and conditions for joined up investment across Government agency silos. Approaches taken to date to implement multi-agency solutions like integrated case management have shown it is unlikely to occur if left to agencies to align around a way forward by agreement. The siloed nature of Government agencies means internal priorities that are geared toward achieving an individual agency's objectives will always take priority over joint initiatives that seek to achieve a broader, shared set of outcomes. The benefits of such an approach will almost certainly not fall evenly across agencies, making less desirable for those agencies who do not stand to benefit as much to want to invest time, resources or money for the benefit of others – despite the overall benefits to Government, individuals, families and whānau.

Social investment seeks to address many of these same challenges, by taking a longer-term approach to investing in social change, in a way that ensures costs and benefits are allocated to and transitioned between agencies in a way that makes sense to achieve overall benefits to Government and citizens.

Leveraging social investment will be key to bringing integrated case management to life. This requires:

1. **Mandate**
    A political mandate to give effect to integrated case management that takes a long-term view of the changes and benefits to be realised, and does not allow for key agencies to opt in or out based on the individual cost/benefit case to each agency. Agencies could still have input to the way in which it is implemented (in particular, which data and information might be involved), but could not choose to not participate.

2. **Ownership and accountability**
    A central point of accountability for driving forward the overall framework for changes across agencies, and for holding individual agencies to account for their contributions.

3. **A different approach to costs and benefits**
    A new approach to allocation of costs and benefits across agencies in a way that ensures the individual cost/benefit case to an agency does not stand in the way of an overall cost/benefit case to Government.

4. **Planning now for interoperability**
    Including a view on the technical requirements for interoperability as a key component of the investments agencies are individually making in case management systems today. This includes giving effect to the Government's digital identity framework in a way that starts to transition ownership of data and information to the individual.

5. **Expecting more of the New Zealand technology sector**
    Creating an expectation of the New Zealand technology sector that solutions will be developed with interoperability and data sovereignty in mind. The banking sector provides a useful case study for this, which has led to banking between banks becoming increasingly seamless for customers.

A roadmap for integrated case management

The core of the foundation for effective integrated case management is Digital Public Infrastructure, which includes interoperability and digital identity at the core of the way Government works.

Such a framework would cover the way in which agencies work together to provide a joined up approach to individuals, families and whānau – and in doing so, build trust across agencies that shared information will be used appropriately.

An interoperability framework would cover:

- Data sharing, security and privacy standards
- Technical integration requirements
- Agreed protocols for use of shared information
- Key process requirements to enable interoperability and integrated case management
- Necessary people capabilities and training standards to support integrated case management

This need not be an onerous undertaking – much work has already been done across agencies to develop component parts of this. The key to its success will be pairing it with a mandate for implementation across agencies.

Investment in integrated case management need not wait for all agencies to upgrade their core case management systems; however the ability to interoperate with other systems should be a key consideration in those implementations. The development of an agreed data structure and standards for agency case management systems across Government would assist considerably in this regard.

Investment in integrated case management should sit alongside the implementation of the Government Identity Trust Framework and continued investment in locally-led collaborative approaches. These will be key to delivering the benefits that the technology enables.

What can we do now?

While the full benefits of integrated case management depend on a coordinated approach across Government, there are a number of new technologies that could offer point solutions for discrete purposes – such as a particular location or cohort. Such off-the-shelf solutions are already configured for use in social sector contexts by multiple organisations, with inbuilt privacy and security. Such tools offer useful interim solutions, but are not designed to be used at scale – and would not offer the full benefits of joined up information and reporting that proper integrated case management is capable of.

1 Interoperability framework
Interoperability framework for key Government agencies with case management systems that covers technical integration, data standards, policy, process and people capability – with a focus on enabling flexible, locally-led approaches

1 Agency case management systems
Solid Government agency case management systems that have been built with interoperability in mind

1 Identity trust framework
Implement Government Identity Trust Framework and accreditation approach and introduce third party identity verification and citizen data management tools

2 Integrate across Government
Coordinated set of integrations between Government agency systems

3 Integrate outside Government
Standardised APIs to integrate with iwi and NGO systems – and integration with verification and citizen data management tools

4 Continuously improve
Continuous learning and improvement – processes to use the combined information to inform budget allocation, investment prioritisation and commissioning

Conclusion

The potential benefits to those individuals, families and whānau with the most complex health, social and educational needs are significant – as is the potential for greater efficiency and savings for taxpayers.

At its core, giving effect to integrated case management requires agencies and political leaders to believe in the art of the possible. Technology is no longer the barrier to enabling more effective integrated case management – the solutions are there and ready to be adopted. Those on the frontline working with individuals, families and whānau have been calling for years for Government to be more joined up and whānau-centred. The case for change is robust. The time is now.

About Deloitte

Deloitte New Zealand provides advisory and implementation support across the public, private and third sectors to transform ways of working and take advantage of new technologies. We bring a depth of knowledge from our work with agencies across the health, social, justice and education sectors of their technology solutions and challenges.

We bring experience in facilitating and enabling multi-agency and system-wide solutions to complex social challenges. Our global network across 150 countries and territories gives us unique access to and insight from the learnings of Governments across the world as they grapple with the same challenges.

Endnotes

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