ANALYSIS FOR OUTCOMES – BETTER USE OF DATA TO IMPROVE OUTCOMES

Purpose

1. This paper reports back on business case work to develop a data-sharing solution across government for matching, anonymising, and accessing person-centred data and for developing a central analytic insights function. These initiatives would enable State services to identify new opportunities to achieve better outcomes for New Zealanders and improve value for money from initiatives.

Executive summary

2. In March 2013, Cabinet agreed that the delivery of Better Public Services would benefit from improved capability across government to share and use existing data sets. A cross-agency data-sharing solution and central insights function for system-level analysis would enable improved analysis across the public service of the impact of government services and interventions from a person-centred perspective.

3. Following a business case exercise and cross-agency discussions, we propose:

   - a Central Analytic Insights Function (CAIF) be established in the Corporate Centre to provide system-level analytical and reporting capability, using a joint venture operating model to ensure insights are actionable and relevant
   - a data-sharing solution that expands the capacity of Statistics New Zealand's Integrated Data Infrastructure (IDI), building on existing infrastructure and capability and taking advantage of existing privacy and security protocols and policies
   - a review of the CAIF and IDI by 31 October 2015 to confirm they are operating effectively and are fit for purpose for the longer term.

4. Agencies that would provide and use the data and Statistics New Zealand are developing a partnership agreement that includes commitments to service quality and expectations for users of the IDI. This proposal would not only enable better data sharing and analysis to support improved outcomes for New Zealanders, but would also contribute to improved confidence in the privacy and security protections of individuals’ data for research and service evaluation purposes.

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1 In accordance with the Statistics Act 1975, Statistics New Zealand keeps data it receives secure, and ensures identifiable information about a person, household, or business is not disclosed in any publication. A privacy impact assessment was earlier undertaken on the IDI: Statistics New Zealand (2012) Privacy Impact Assessment for the Integrated Data Infrastructure. www.stats.govt.nz.
Background

5. On 18 March 2013, Cabinet agreed that the delivery of Better Public Services would benefit from stronger, more co-ordinated capability across government to share and use existing data sets to analyse the impact of government services and interventions from a person-centred perspective (CAB Min (13) 8/3, confirming SEC Min (13) 3/4). To this end, Cabinet directed Treasury to work with other agencies and in consultation with the Privacy Commissioner to develop a blueprint to establish systematic, efficient and secure ways to govern, manage, match, anonymise, and access person-centred data across agencies.

6. The Minister of Finance was invited to report back to the Cabinet Committee on State Sector Reform and Expenditure Control by the end of July 2013 on the business case for the data-sharing solution and for new system-level analytical capability.

7. The following table identifies the contingency funding set aside for this initiative in Budget 2013 (CAB Min 13 (12) 6/10).

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Objectives for agencies, sectors, and the system as a whole

8. The Government’s Better Public Services priority requires the State sector to find new and better ways to improve outcomes for New Zealanders, particularly for cohorts that experience poorer outcomes. Strategies to improve outcomes need to be implemented in a tight fiscal environment and contribute to the Government’s drive to achieve value for money.

9. To better prioritise government resources across the system, the State sector needs a far more sophisticated information base and knowledge capability for understanding outcomes than is generally available.

10. Agencies are continually finding new ways to better understand the impact of their services on their clients’ outcomes and the long-terms costs for government. However, line agencies are not incentivised to consider impacts from a system-wide perspective or mandated to take action outside their responsibilities.

11. The proposal supports a stronger focus on outcomes by:
   - enabling agencies and external researchers to access anonymous data about how individuals interact with services provided across the State sector
   - supporting analysis of this data from a State sector perspective, using advanced analytic methodologies and with the centre working in partnership with agencies.

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2 Data matching generally involves the comparison of one set of records with another to find records in both sets of data that belong to the same person.

3 Data that has been anonymised has had identifying details such as names and addresses removed and a variety of techniques applied to reduce the possibility that an individual can be identified.

4 Person-centred data is organised around an individual, for example, the services a person has received from agencies. Agencies’ current data sets are largely ‘service-centred’ – collated and managed around the services the agency delivers.
12. Advanced analytics uses high-order statistical, mathematical, and computer science techniques on matched data from multiple sources. It enables analysts to identify what things are happening, predict what will happen next, identify appropriate interventions, and predict and track the needs of cohorts. These techniques also supports estimates about the return on investments achieved through different actions. It is firmly focused on providing business insights given available data, even though this data will have gaps and errors. For this reason, the insights produced must be considered side-by-side with the business context.

13. We propose supporting the public sector to build its information base and develop its capability to focus on system efforts to improve outcomes by:
   • establishing the Central Analytics Insight Function (CAIF), which will work in partnership with agencies to complete system-focused analytic insights projects
   • expanding Statistics New Zealand’s Integrated Data Infrastructure (IDI) and improving accessibility to the IDI for approved analysts and researchers from inside and outside government.

14. The success of this proposal depends on agencies, sectors, and the system as a whole generating better value from the administrative data that government holds and learning from each other.

Examples of outcomes from analysis of integrated data

15. The Ministry of Social Development has utilised the IDI to understand employment and earnings outcomes for clients moving off benefit with the intention of looking at a broader set of social outcomes over time, for example, justice outcomes. From its own administrative data, the ministry can only identify off-benefit outcomes. However, by understanding what employment clients have moved into, the ministry can get a better understanding of what contributes to sustainable employment outcomes. These findings are enabling the ministry to target interventions to where they will have the biggest and most sustainable impact.

16. The Ministry of Justice carried out a project using data from courts, corrections, and police to determine how the characteristics of a first conviction were associated with the frequency and seriousness of subsequent convictions. It found a clear pattern – the youngest first-time offenders went on to be reconvicted most frequently in the 22 year period studied, particularly those offenders convicted of burglary or theft. The ministry recognises that if it had access to a broader range of data such as health and education data, it could investigate the relationships between criminal careers and outcomes in those broader areas.

17. The Ministry of Education used integrated data to analyse the outcomes for young people who complete a qualification in the New Zealand tertiary education system. Using education, income, benefit and border crossings data, this work analysed differences in incomes, employment rates, and destinations for different qualifications to help young people as they decide what to study.

Central Analytic Insights Function – insights, action, improved outcomes

18. A business case exercise concluded that the most effective and efficient model to provide system-level analysis is for the CAIF to:
   • identify and build full engagement views of high-needs cohorts of citizens
   • support agency-initiated and -led analysis and to peer review agency modelling
• identify and monitor risks, early interventions, and return on investment
• deliver or commission the appropriate publication of findings.

19. A critical success factor for the CAIF is that line agencies find value in its analysis and transfer the insights into action. This factor is recognised in the design of CAIF’s governance and operating models, which involve agencies collaboratively in projects from development to presentation.

20. The CAIF would be a centrally led function, guided by a cross-agency governance group. Individual projects would be operated as joint ventures with line agencies (see paragraphs 37–40) and have cross-agency steering committees.

21. The proposed funding envelope reserves $0.330 million per year for line agencies to devote resources to the joint venture projects (see paragraphs 47–52). This would enable close involvement with agencies and use of their in-depth knowledge of data, subject areas, and service users, and would support insights being turned into actions, including supporting any reprioritisation of resources required to implement insights.

22. Because projects will be run as joint ventures, learnings and skills from the multi-agency CAIF projects will flow between the centre and line agencies, thus building capability across the State sector.

*Withheld under the Official Information Act s.9(2)(f)(iv)*
Data-sharing solution – IDI Plus

28. The Analysis for Outcomes project developed requirements for a data-sharing solution with significant input from agencies. Options for the solution were assessed against these requirements and standard business case criteria such as value for money and efficiency.

29. The solution was developed in a context of ensuring the approach to matching and anonymising data is transparent and enhances the public’s trust and confidence in government’s ability to assure the privacy and security of personal information. For more information about privacy and security, see paragraphs 53–58.

30. Nine options were considered. The preferred option offers the strongest balance of utility, cost, privacy and security needs, and alignment with government direction. Further information is in the business case, which is available on request from the Minister of Finance’s Office.

IDI Plus – a ‘steady steps’ solution

31. IDI Plus is the strongest option because it:
   • is the best fit from a machinery-of-government perspective, minimising duplication and building on existing infrastructure, capability, and processes
   • is consistent with Statistics New Zealand’s vision as a fit-for-the-future agency that more effectively and efficiently meets user needs

5 The nine options for the data-sharing solution were retain the status quo; extend Statistics New Zealand’s IDI; establish a departmental agency hosted by Statistics New Zealand; establish a departmental agency hosted in another State sector agency; establish a new function within an operational State sector agency; establish a new function within a central agency; establish a new stand-alone agency; commission a series of topic- or sector-based data warehouses; and outsource the solution to a private sector provider.
Treasury:2714134v1               6

- takes advantage of existing privacy and security protocols and policies, including ongoing engagement with the Privacy Commissioner and independent legal and technical assessments of privacy and security risks and controls
- utilises matched data sets already in the IDI, and speeds the addition of data
- is independent of operational service-delivery agencies, which minimises the risk that data is used (inadvertently or otherwise) for operational purposes
- is relatively low cost and can be implemented quickly.

32. The proposed approach for data sharing extends funding for remote access to enable more analysts and researchers inside and outside government to access the IDI more easily. Funding is also included to ensure agency access to the IDI is at no direct cost to agencies.

33. The new funding requested for Statistics New Zealand also enables the integration of additional data sets into the IDI. This will reduce the duplication that occurs across government of several agencies all negotiating to use the same data.

34. Two areas require ongoing improvement for the IDI to be sustainable.

35. **Ability to identify non-government service providers:** Agencies need to be able to identify non-government providers of government-funded services to measure the performance of those providers’ programmes on an outcomes basis. The Statistics Act 1975 does not allow individual organisations to be identified, although agencies wishing to identify service providers may seek their consent to identification. Agencies could also consider including an identification requirement in contracts with providers (without compromising legislative restrictions for tax and commercially sensitive information).

36. **Ensuring access to data:** Physical access to the data that Statistics New Zealand holds has been made easier for approved researchers with the implementation of remote access to the IDI. The funding proposal extends access to up to 50 terminals in agencies and Statistics New Zealand. This sort of access is crucial to agencies’ ongoing support of the IDI, and demand will be monitored. (It is also important for agencies’ ongoing support that the IDI keeps pace with technology.)

**Cross-agency governance – accountability and partnership**

37. Delivering better public services to improve outcomes for New Zealanders is a collective responsibility – no single agency or group of agencies can work in isolation. This proposal supports this responsibility through cross-agency governance groups and ministerial accountability (Figure 1) and a partnership agreement (paragraph 42).

38. The governance groups would be expected to:
- work together to negotiate work programmes that balance conflicting priorities (eg, the timing for data sets to be added to the IDI given the CAIF’s analytical priorities, agencies’ ability to provide data of the necessary quality, and Statistics New Zealand’s resources for matching and integrating data)
- maintain the integrity of and trust and confidence in the system
- monitor that projects are authorised, rigorous, and ethical (including using, as appropriate, a mechanism such as a consumer panel or an ethics committee)
- facilitate shared actions across agencies to apply new insights
• monitor compliance with the partnership agreement
• form links with relevant entities (such as the Information Security and Privacy Governance Group recently set up by the Government Chief Information Officer), and engage regularly with the Privacy Commissioner.

39. CAIF’s governance group would also keep the CAIF system-oriented, but attuned to the practical application of insights; support projects that individual agencies initiate and lead; stimulate and encourage top-quality analysis; and form links with entities such as the Social Policy Evaluation and Research Unit in the Families Commission.

40. The IDI governance group would also oversee the IDI’s development and ongoing operation and work closely with agencies that have specific statutory requirements or ethical sensitivities in relation to their data. (For example, ensuring tax data is used only as permitted under the Tax Administration Act 1994 and as the Commissioner of Inland Revenue agrees, and working within the specific requirements for health data.) These issues would also be explored in the privacy impact assessments that Statistics New Zealand would complete for each additional data set.

41. Membership of the governance groups would be determined in the next phase of the project. Each joint venture analytics and insights project would also have a steering committee that would involve relevant agencies, including those providing source data.

**Figure 1:** Proposed governance model

*The Performance Hub is a joint policy team of The Treasury, State Services Commission, and Department of the Prime Minister and Cabinet in the State sector’s Corporate Centre.*
Partnership agreement – expectations and service levels

42. Statistics New Zealand, agencies that would provide and use the data, and the Government Chief Information Officer are developing a partnership agreement. The agreement will recognise the shared responsibility for data sharing across the State sector. As well as clear responsibilities, the agreement will include service levels and high-level expectations for contributing to and using the IDI. This agreement will be finalised in the early stages of the Establishment Phase of the project, and all public sector agencies will be consulted before it is finalised.

Joint review – fit for purpose and sustainability

43. The CAIF and the IDI must be fit for purpose, and the IDI must be sustainable. We propose that the Corporate Centre and Statistics New Zealand review both aspects by 31 October 2015 to inform a ministerial report back by 30 November 2015. The scope of the review will be determined, but would be likely to consider whether:
- the IDI is sufficiently responsive to changes in demand and will be sustainable
- agencies are using the IDI (and if not, why not)
- there are enough user terminals to meet demand
- agencies are using the data according to agreed rules and expectations
- privacy and security arrangements are appropriate
- data-providing agencies are appropriately resourced and otherwise able to provide good quality data and to support interpretation
- governance arrangements are effective
- the CAIF is producing high-quality and relevant insights.

44. Statistics New Zealand is scheduled to start a separate review of the Statistics Act 1975 in 2014. Statistics New Zealand will work with the Corporate Centre to ensure analytical and data-sharing needs that emerge through the implementation of the proposal in this paper are considered as part of that review.

Implementation

45. The Establishment Phase of the Analysis for Outcomes project would run from August to December 2013 (see the business case for details). One work stream would implement the CAIF and another would implement the enhancements to the IDI.

46. During the Establishment Phase, the Analysis for Outcomes project would:
- establish cross-agency governance groups
- get work programmes approved and under way
- recruit staff for the CAIF and secure office space and other resources
- implement an initial communication and engagement action plan.
Financial implications

47. Approval is sought to invest up to $4.990 million in capital and $36.208 million in operating expenditure over 2013/14 to 2017/18, then $8.151 million per year in ongoing operating costs. The composition of this investment is as follows.

48. To change the IDI, Vote Statistics requires:
   • $4.870 million in capital funding over 2013/14 to 2016/17
   • $18.913 million in operating funding over 2013/14 to 2016/17
   • $5.833 million in operating funding for 2017/18 and out years.

49. To implement the CAIF, Vote Finance requires:
   • $0.120 million in capital funding in 2013/14
   • $9.143 million in operating funding over 2013/14 to 2016/17
   • $2.319 million in operating funding for 2017/18 and out years.

50. This funding falls within the tagged contingency established for this purpose as part of Budget 2013 (paragraph 6).

51. Within Vote Finance funding has been reserved for line agencies to participate in joint venture projects and to transfer data to the IDI. Allocation of this funding will be directed by the cross-agency governance group, and will be progressed through existing rules and processes. The funding amounts reserved are:
   • $0.330 million per year for line agencies to participate in joint venture insights projects with the CAIF
   • $0.200 million over years 1 and 2 to support the sourcing, preparation, and transfer of data into the IDI.

52. Note that besides the additional funding outlined above, there may be a further impact on output plans and departmental expenditure of contributing agencies in 2013/14 and out years. The governance groups will monitor the extent of the impact, and it will be considered as part of the proposed review in 2015.

Privacy and security protections

53. The integration of a large amount of administrative data comes with significant privacy risks. Realisation of these risks (whether accidentally or through intrusion or misuse) could impinge on the rights of individuals and would negatively affect trust in government. Three key risks are as follows.
   • The loss of or unauthorised access to data. Data provided to researchers has identifying information removed, but fully identified data sets exist at certain steps in the integration process, and re-identification is possible with the right skills and knowledge.
   • Some data may not have been collected for research purposes, and individuals may have concerns about its use for this purpose. This is particularly the case for research involving health data, which is routinely subject to ethical review.
   • Individuals granted access to this system might seek to re-identify integrated data for other (eg, operational) purposes, contrary to the intent of the system.

54. There will always be a level of risk that agencies need to actively manage through practice, oversight, and assurance.
55. The risks can be outweighed by a less complex and better regulated environment. The preferred data-sharing option builds on Statistics New Zealand’s existing rules and controls for managing these risks. These rules are consistent with international good practice for this type of data, and will be reviewed (and updated as necessary) as the solution is developed.

56. The move towards centralising data integration for research and statistical purposes is also an opportunity to reduce ad hoc data sharing by agencies for similar purposes. There is limited information on the volume of data that agencies share for statistical and research purposes or on whether agencies have robust and consistent practices for ensuring data is safely transferred, processed, stored, and, ultimately, destroyed. Nevertheless, many of the risks outlined above exist to some extent in the current environment. Over time, increased use of the proposed data solution should ensure a larger proportion of shared and integrated data for research purposes is undertaken in accordance with consistent and robust security and privacy controls.

57. Note that agencies’ use of data-integration solutions for operational purposes (ie, to target individuals) is outside the scope of this paper. The Government ICT Strategy and Action Plan recognises that agencies will increasingly undertake data integration as government seeks to unlock the value of its information holdings. To manage such integrated data effectively requires a coherent and systematic approach to data sharing across government. This approach requires policies and standards to be aligned and expertise to support agencies to share and leverage information assets.

58. Ernst & Young provided advice about privacy and security considerations in the options considered for the data-sharing solution and this Cabinet paper. It will undertake privacy and security assessments at agreed points during the next phase of the project. The Office of the Privacy Commissioner provided advice to the project in its role as observer on cross-agency reference and advisory groups.

Consultation

59. Treasury and State Services Commission staff drafted this paper with significant input from Statistics New Zealand and other agencies represented on the reference and advisory groups. Public service departments, the Accident Compensation Corporation, Housing New Zealand Corporation, and Sport New Zealand were given the opportunity to comment on a draft. The Department of the Prime Minister and Cabinet was informed.

60. The Office of the Privacy Commissioner has provided input into this paper and outlined its expectations and concerns in relation to privacy matters.

61. Agencies that provided feedback on this paper supported the proposal. However, the support of some agencies (eg, the Ministry of Social Development) is contingent on their having easier and more efficient access to the IDI.

Legislative implications

62. The proposal in this paper does not have legislative implications. However, a review of the Statistics Act 1975 is scheduled to start in 2014. Statistics New Zealand
will work with the Corporate Centre to ensure analytical and data-sharing needs that emerge through the implementation of this proposal are considered in that review.

63. The Public Records Act 2005 requires approval from the Chief Archivist before public records are disposed of. Statistics New Zealand has an approved disposal authority for statistical data, documentation, and metadata that allows for the archiving of anonymised integrated data sets and associated metadata. Integrated data sets containing personal data can be disposed of once administrative and statistical uses have ceased. This also aligns with the Privacy Act 1993.

64. The Official Information Act 1982 and Privacy Act 1993 prevent the release of information containing data about natural persons.

Human rights

65. Privacy issues are discussed throughout this paper. The human rights issues the proposal raises are privacy related. The Human Rights Commission was consulted. The commission is comfortable with matched, anonymous data being used for only research and statistical purposes as outlined in this paper on the basis that appropriate safeguards, governance, and oversight are established to protect privacy and security of data.

Regulatory impact analysis

66. A regulatory impact analysis is unnecessary.

Gender implications

67. This proposal has no gender implications. Each project undertaken through the CAIF will have a cross-agency steering committee, including the Ministry of Women’s Affairs (and other population-based agencies) as appropriate.

Disability perspective

68. This proposal does not need a specific disability perspective. Each project undertaken through the CAIF would have a cross-agency steering committee that would include agencies with interests in disability issues as appropriate.

Publicity and communications

69. The Corporate Centre in partnership with Statistics New Zealand and in liaison with the offices of the Ministers of Finance, State Services, and Statistics, will manage communications about this decision. A fact sheet for Ministers is appended to this paper. We recommend that following discussions with consulted agencies, this Cabinet paper (and the business case, to the extent appropriate), be made available on the Better Public Services page of the State Services Commission website.

70. The Head of State Services will inform agency chief executives of the Cabinet decisions on this paper. The Analysis for Outcomes project team will communicate with the agencies involved and other external and internal stakeholders and will manage ongoing engagement on this work. The team will develop information packs, including fact sheets, for Ministers, agencies, and other interested parties.

71. We recommend that a proactive approach be taken with the media.
Recommendations

72. It is recommended that the Committee:

Background

1 note that in March 2013 Cabinet agreed that the Better Public Services priority to improve outcomes for New Zealanders would benefit from stronger, more co-ordinated capability across government to share and use current data sets to analyse the impact of government services and interventions from a person-centred perspective;

Advanced analytics and reporting function

2 agree that the Corporate Centre establish the Central Analytic Insights Function for system-level analysis in the Corporate Centre with a joint venture operating model and cross-agency governance;

3 invite the Minister of Finance to report back to the Cabinet Committee on State Sector Reform and Expenditure Control in July 2014 with an update on the implementation of the Central Analytic Insights Function;

Data-sharing solution

4 agree that Statistics New Zealand increase the capacity of and improve access to its Integrated Data Infrastructure (the ‘data-sharing solution’) as a more systematic, efficient and secure way of managing, matching, anonymising, and accessing person-centred data across agencies by:

4.1. improving agencies’ safe access to matched, anonymous person-level data in the Integrated Data Infrastructure for research and statistical purposes only;

4.2. enhancing the Integrated Data Infrastructure’s tool sets, capacity, and support;

4.3. making it easier for agencies to bring their own data into the Integrated Data Infrastructure for secure manipulation and analysis;

5 note that Statistics New Zealand and agencies that would provide and use the data will negotiate a partnership agreement that outlines responsibilities and expectations;

6 invite the Minister of Statistics to report back to the Cabinet Committee on State Sector Reform and Expenditure Control in July 2014 with an update on the data-sharing solution;

7 note that agencies that contract for services with non-government providers are to consider including in contracts a requirement that providers agree to being identified in matched data sets;

Review of the data-sharing solution and insights function

8 direct the Corporate Centre and Statistics New Zealand, in consultation with the Privacy Commissioner, to jointly review the data-sharing solution and Central Analytic Insights Function by 31 October 2015;
invite the Minister of Finance and Minister of Statistics to report back to the Cabinet Committee on State Sector Reform and Expenditure Control on the joint review described in recommendation 8 by 30 November 2015;

**Governance**

note that two cross-agency governance groups will be established with overlapping membership: one group to advise the Corporate Centre Executive Group with accountability to the Minister of Finance and one to advise the Chief Executive of Statistics New Zealand with accountability to the Minister of Statistics;

**Financial implications**

note that Cabinet established a tagged contingency as part of Budget 2013 totalling $36.238 million in operating and $4.994 million in capital funding over five years with the intention of drawing down this funding for the Analysis for Outcomes proposals following completion of a satisfactory business case (CAB Min 13 (12) 6/10);

approve the following changes to appropriations and net assets to give effect to the policy decision in recommendations 2 and 4 with a corresponding impact on the operating balance and debt:

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13 agree that the proposed changes to appropriations and projected balances of net assets for 2013/14 above be included in the 2013/14 Supplementary Estimates and, in the interim, the increases be met from Imprest Supply;

14 agree that the expenses and capital expenditure incurred under recommendation 13 be a charge against the Analysis for Outcomes (Cabinet Investment Function) tagged contingency established as part of Budget 2013 as noted in recommendation 13;

15 note that while there is a slight variation within the forecast period, total spending is slightly less than the level expected in the tagged contingency for both operating and capital, including in out years;

Publicity

16 agree that this Cabinet paper (and the associated business case to the appropriate extent) be publically released on the Better Public Services page of the State Services Commission's website, following discussion with consulted agencies;

17 agree that the Corporate Centre and Statistics New Zealand in liaison with the offices of the Ministers of Finance, State Services, and Statistics manage communications about this decision.

Hon Bill English
Minister of Finance
Date:

Hon Dr Jonathan Coleman
Minister of State Services
Date:
APPENDIX: FACT SHEET

Analysis for Outcomes – Better Use of Data to Improve Outcomes

What are we doing?

The Analysis for Outcomes project has been set up to make better use of government data to improve outcomes for New Zealanders. The project has two components.

- Establishing capability to perform advanced analytics in the Corporate Centre, utilising the skills and knowledge of analysts from line agencies – the Central Analytics Insights Function.
- Improving safe access for approved analysts and researchers to integrated and anonymised data about New Zealanders’ interactions with government services for research and statistical purposes. This access will be provided by Statistics New Zealand’s Integrated Data Infrastructure (IDI).

‘Anonymised’ data has had information that could identify an individual removed or changed; for example, names and addresses are taken out.

What will the Central Analytic Insights Function do?

The Central Analytic Insights Function (CAIF) will work in partnership with agencies to carry out system-level analysis of person-centred data.

It will use advanced analytic methods to analyse data held the IDI to generate insights about the collective impact of the State sector, and identify opportunities for:

- high return on investment (fiscal, economic and social) across the system
- dealing with complex barriers to improving outcomes for New Zealanders.

What will the IDI do?

Building on existing infrastructure in Statistics New Zealand, more government administration data that is already collected by agencies will be linked data and be made available to government and non-government analysts and researchers.

This data will be used for research and statistical purposes only. It will not be used to identify individuals or as the basis for case-management decisions about individuals.

How will the CAIF, the IDI and agencies work together?

[Diagram showing the flow of data from agencies to CAIF and Statistics New Zealand's Integrated Data Infrastructure, and back to agencies for analysis and research purposes.]

Source agencies provide data sets, as prioritised and agreed with the IDI governance group and agreed (eg, five additional government data sets integrated per year from across government)

Data transferred at an agreed time (eg, quarterly) through secure channels

Statistics New Zealand’s Integrated Data Infrastructure integrates and anonymises data and provides analytical software and tools

User agencies or sectors, including the Central Analytic Insights Function, analyse data for research and statistical purposes

Data accessed remotely at their agency or at Statistics New Zealand’s data laboratory

Approved third-party researchers (eg, from universities) analyse data for research and statistical purposes
What data will be available in the IDI?

The IDI provides access to anonymous data about individuals and how they interact with government services. Data sets already in the IDI come from the education, justice and economic sectors. Over the next two years, more data will be included from the social sector.

Who will use this data?

To ensure data remains confidential, access to the IDI is carefully managed and no information about individual people, households, or businesses may be published or disseminated.

The IDI is available only to ‘approved’ government and non-government researchers. Researchers who are approved have the necessary research experience, knowledge and skills to access and use the information in the IDI, but only for research or statistical purposes. Each researcher signs a declaration of secrecy.

How do researchers access the anonymous data?

Government researchers can access the data either remotely from their home agency or in a Statistics New Zealand data laboratory (‘datalab’).

Non-government researchers need to access the data from the Statistics New Zealand datalabs in Wellington, Auckland, and Christchurch.

How will privacy and security be protected?

We are working with a multi-agency reference group and involving the Privacy Commissioner to ensure individuals’ details continue to be kept confidential and are not able to be used on the front line or for operational decisions. As with current data sharing for research purposes, this data will benefit from the confidentiality and security provisions of the Statistics Act 1975 and will not be able to be used to make operational decisions about any individuals.

The governance framework for data sharing, storage, access and disposal is covered through legislation and the operational policies of the government agencies.

As we extend the range of data that is linked and increase its usefulness for research purposes, we will continue to keep privacy and security at the forefront of our thinking.

Example – Employment and earnings outcomes for clients moving off benefit

Agencies are continually finding new ways to better understand the impact of their services on their clients’ outcomes and long-term costs for government. For example, the Ministry of Social Development has utilised the IDI to understand employment and earnings outcomes for clients moving off benefit with the intention of looking at a broader set of social outcomes over time, for example, justice outcomes. From its own administrative data, the ministry can only identify off-benefit outcomes. However, by understanding what employment clients have moved into, the ministry can get a better understanding of what contributes to sustainable employment outcomes. These findings are enabling the ministry to target interventions to where they will have the biggest and most sustainable impact.

Example – Reconvictions of youngest first-time offenders

The Ministry of Justice carried out a project using data from courts, corrections, and police to determine how the characteristics of a first conviction were associated with the frequency and seriousness of subsequent convictions. It found a clear pattern – the youngest first-time offenders went on to be reconvicted most frequently in the 22 year period studied, particularly those offenders convicted of burglary or theft.

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