

ADMINISTRATIVE AND SUPPORT SERVICES BENCHMARKING REPORT

**ICT PERFORMANCE FINDINGS
FY 2013/14**

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1. COMMENTARY

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Commentary

The Government ICT Strategy and Action Plan to 2017 describes a vision in which the value of government information is unlocked and technology is harnessed to deliver better, trusted public services.

By 2017, the New Zealand government wants public services to be radically transformed for the benefit of all New Zealanders and ICT is a key tool that will make this possible. ICT spans information management, technology infrastructure, and technology-enabled business processes and services.

ICT is not just about technology – it's about the ways in which information and technology are used to deliver better services and enhance trust and confidence in government.

What does this mean for ICT units within government agencies? The Government ICT is heading in the direction where capabilities will be shared to deliver common business and government outcomes. This needs to be supported by strong governance, service delivery, funding and operating models. Opportunities for shared and common capabilities are expected to emerge through cross agency collaboration across strategy, planning and investment cycles. Current practices like the Four Year Planning process and the recently updated Government ICT Action Plan are mechanisms that further enable capability sharing amongst agencies. This is also supported by the All of Government Common Capabilities that has delivered a significant portfolio of ICT capabilities that are now being consumed by agencies.

BASS continues to be a valuable measure of progress as a lag indicator to where things are heading. ICT expenditure in FY 2013/14 make up 67% of A&S service spending, making it the largest A&S function by expenditure. FY 2103/14 data shows evidence of increase in outsourcing activities in the ICT function and an ever increasing trend in moving towards operating (opex) from capital (capex) expenditure. The overall ICT spend has slightly increased (1.5%) from last year and application development and management continues to be the highest area of spend within the ICT function calling out for further exploitation of co-creation and system-wide benefitting application development opportunities.

Our understanding of ICT costs and its associated drivers continue to increase as a result of improvements to BASS measurements, incorporated in FY 2012/13. These changes include aligning measurement with benchmarks in other jurisdictions; collecting cost information across all agencies by Service Tower and sub-tower, Cost Elements; and introducing a total end users data point and metric to reflect that some agencies deliver ICT services to external parties acting in partnership with the agency.

2. HIGHLIGHTS OF FINDINGS

Highlights (1 of 2)

Agencies spent \$1,119.5m on the ICT function in FY 2013/14. This is slightly more than the FY 2012/13 overall spend of \$1,091.7m. The vast majority (98.2%) of this expenditure was in the medium and large agency cohorts. Across all cohorts, system costs made up 44.8% of total ICT expenditure, a decrease of 5.2% from the previous year. Personnel costs made up 32.5% of total ICT expenditure, an increase of 2.6% from the previous year. Outsourcing costs made up 20.5% of total ICT expenditure, an increase of 2.2% from the previous year.

Agencies that reported changes in expenditure cited similar reasons to FY 2012/13. Reasons provided by agencies suggest that the lifecycle of major projects, asset refresh, systems modernisation, changes in the use of contractors and recruitment practices and transition to ICT common capabilities drove most changes.

New measurement included in the FY 2012/13 report has provided a clearer view on cost drivers. This is the second BASS report to build a time series of the proportion of capital (capex) versus operating (opex) expenditure within ICT spend, and also the second to collect cost information by service tower and cost elements across all agencies.

- **This time series has demonstrated that agencies are spending a greater proportion of opex expenditure than prior years** (80.2 % as a percentage of overall system costs), and has provided greater insight into cost drivers and whether ICT spending is in line with expected plans. Moving to common capabilities such as Infrastructure-as-a-Service was cited as one of the main reasons of reduced capital spending.
- **The applications tower is the highest proportion of expenditure although percentage of applications spend as a percentage of total ICT expenditure reduced by 6.5% from FY 2012/13.** This highlights the need for further investigation into the relationship between an application, the business need it meets, the value it provides to the agency and potential value it could provide to the system through generating cost savings and achieving collective impact through cross agency collaborative investments.
- **Around 69 % of ICT FTEs are in application development, application management and ICT management service towers.**

Expenditure is up \$129.1m (about 13%) since FY 2011/12 when adjusted for inflation. Without adjusting for inflation, there is a nominal spending increase of \$151.9m (15.7%) since FY 2011/12. Results from nine agencies spending \$53.5m less and 17 agencies spending \$81.3m more.

Highlights (2 of 2)

Overall, New Zealand agencies report having a higher cost per internal end user than international comparators. However, the cost per internal end user has decreased in FY 2013/14. The cost per internal end user for the New Zealand full cohort is \$13,866. This is a decrease from FY 2012/13 by \$2,477 and an increase by \$1,576 from FY 2011/12. This increase from FY 2011/12 was mainly driven by the increased cost per internal end user in the medium agency cohort, whereas the decrease from FY 2012/13 is driven by reduced cost in the large cohort. The medium agency cohort has significantly higher ICT cost per internal end user than the other cohorts (181% higher than the Hackett benchmark and 152% higher than the large agency cohort), and all cohort results are higher than international comparators. The cost per total end user for the New Zealand full cohort in FY 2013/14, which includes defined external users and collected for the first time in FY 2012/13, is \$10,045 compared to \$10,436 in the previous year.

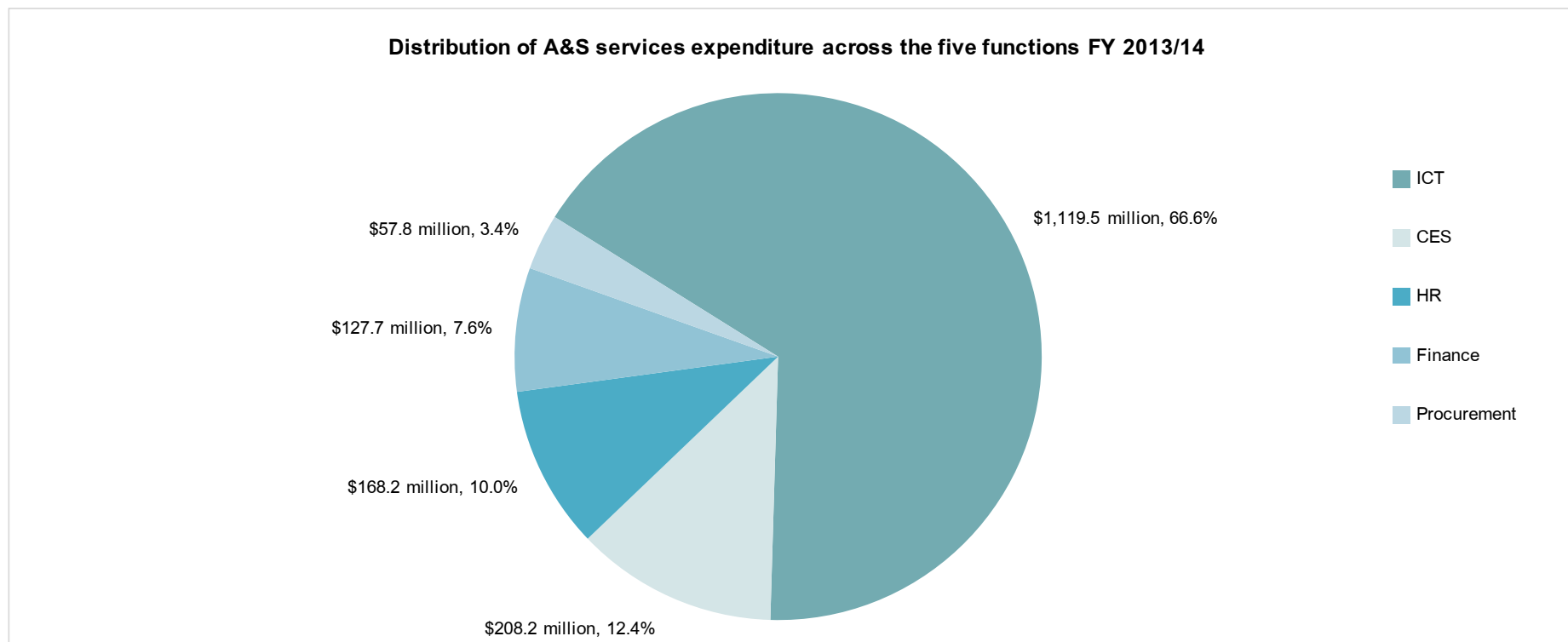
New Zealand agencies continue to demonstrate that they are effective at supporting systems. Over the three reporting periods for BASS, agencies have reported consistently high levels of system reliability. The median uptime for core applications over all cohorts for FY 2013/14 was 99.87%. They also report strong results in average time taken to resolve a service disruption.

Results regarding the maturity of the ICT function (i.e. alignment with leading practice) are relatively strong and unchanged since FY 2011/12. Historically, the BASS methodology has relied on a Management Practice Indicator (MPI) adopted from the UK Audit Agencies (UKAA) ICT performance indicators. However, practitioners have called for more robust measures of practice maturity. Together with the GCIO, the BASS team intends to re-evaluate MPI as a measure of maturity and may consider other measures like the Capability Maturity Model as ICT functions across the different agencies and cohort have different functions.

3. COST

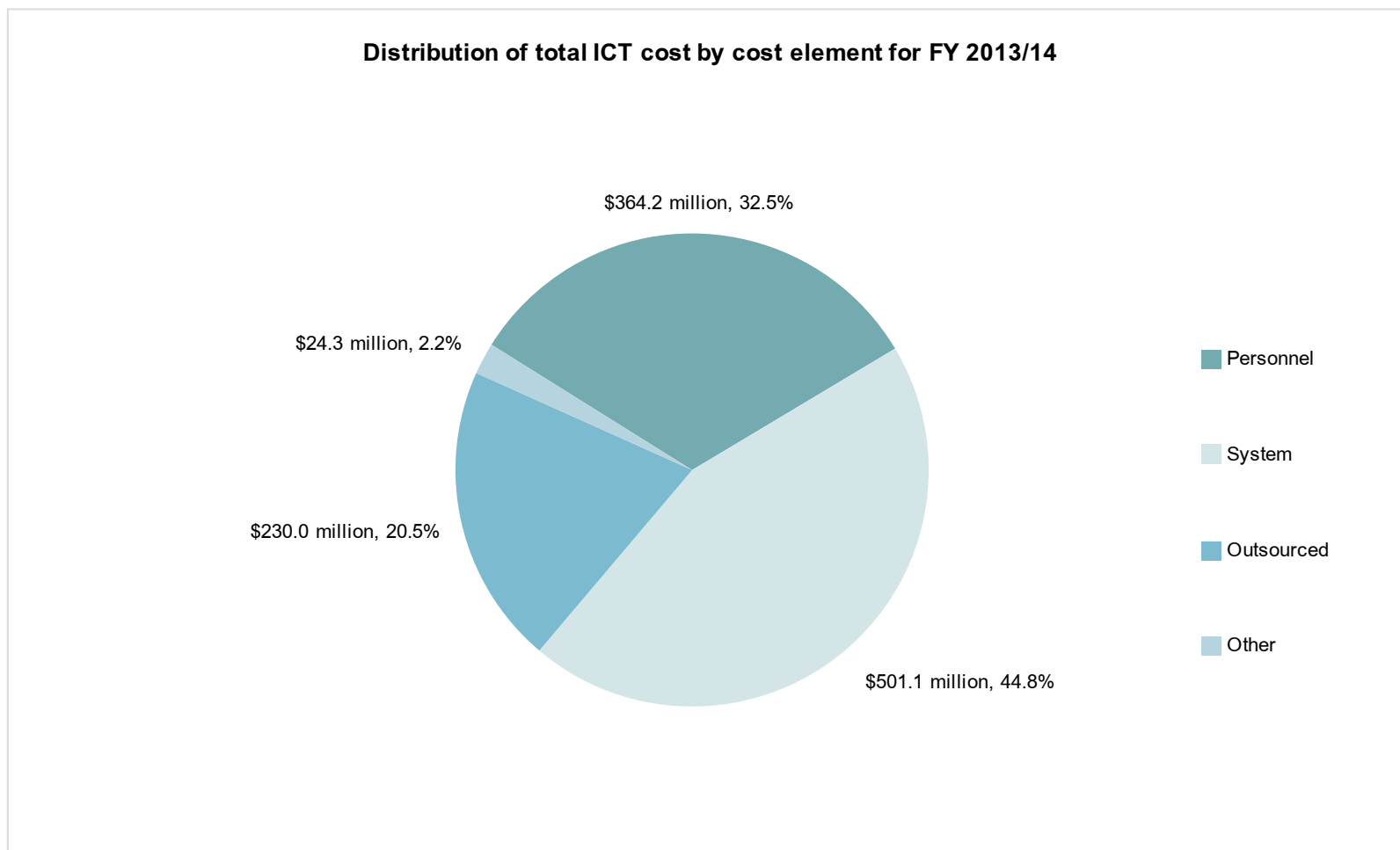
Cost findings include total spending overall and by cohort. Cost information is collected by ICT Service Towers (including cost elements) for 26 agencies. They also include information on cost drivers, including the distribution of expenditure across inputs, the cost of specific inputs, and how staff are allocated across activities. Cost findings also provide information regarding changes in spending since previous reporting periods both in nominal and inflation-adjusted terms.

ICT expenditure of \$1,119.5m in FY 2013/14 continued to make up 67% of A&S service spending, making it the largest A&S function by expenditure



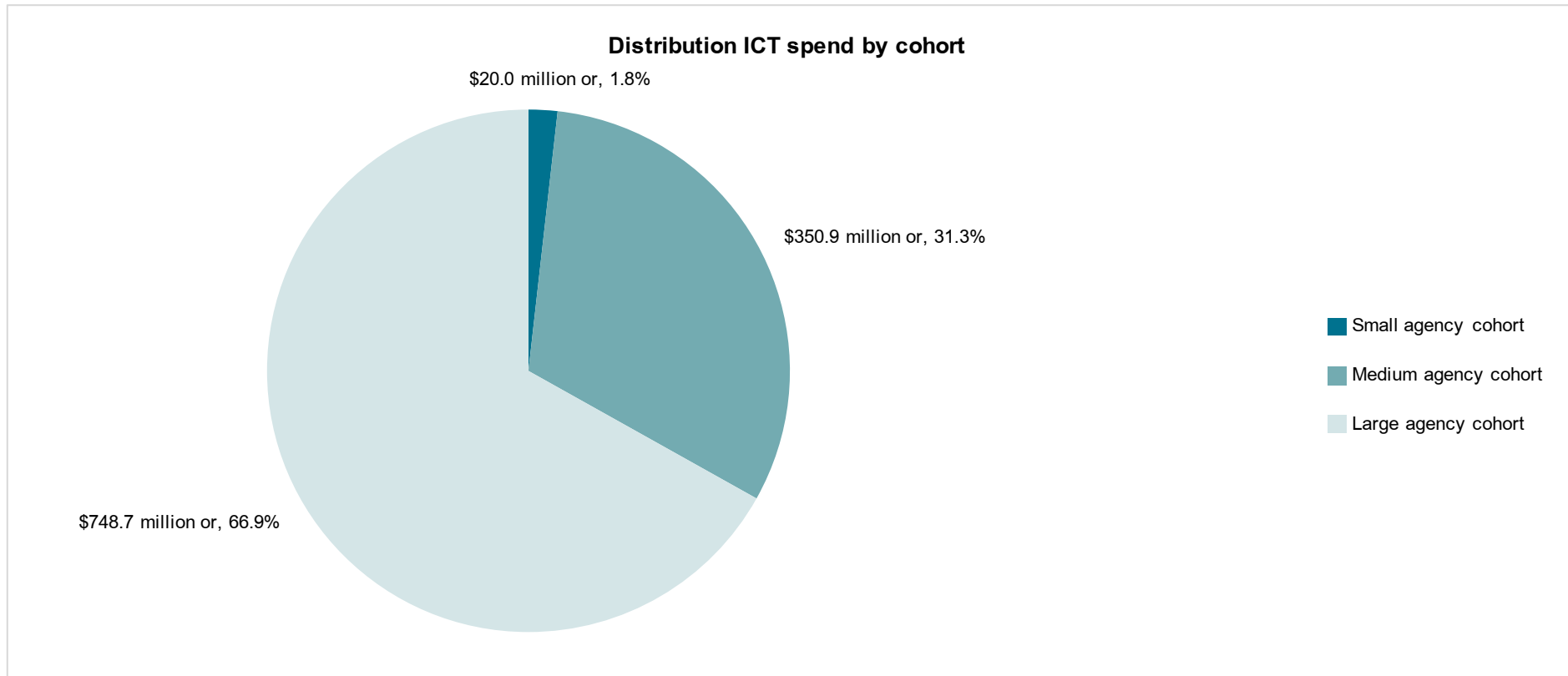
The distribution of spending across A&S functions in FY 2013/14 has remained relatively the same as in FY 2012/13

System costs made up 45% of total ICT expenditure, and personnel costs made up 33% of total ICT expenditure

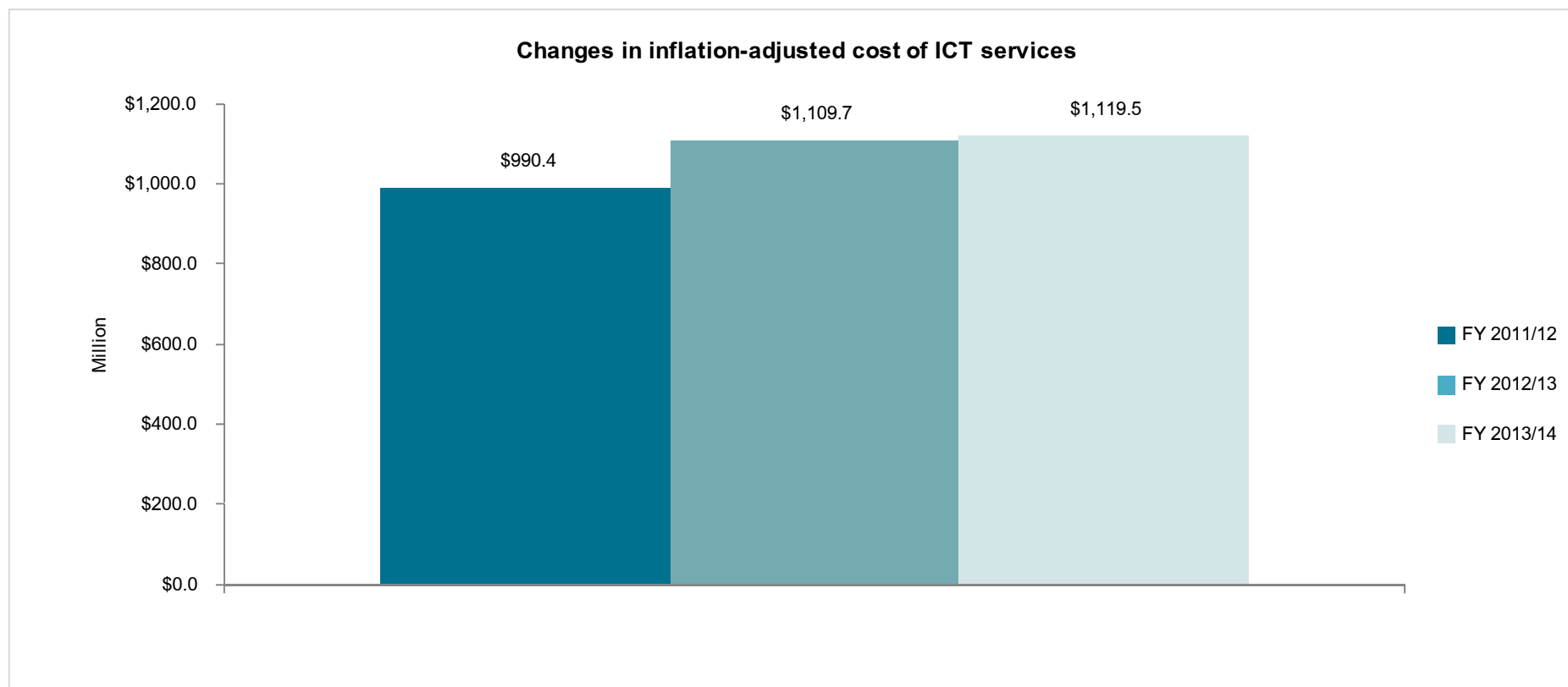


The proportion of system costs has reduced from FY 2012/13 by 5% reflected by an increased proportion in personnel and outsourced costs.

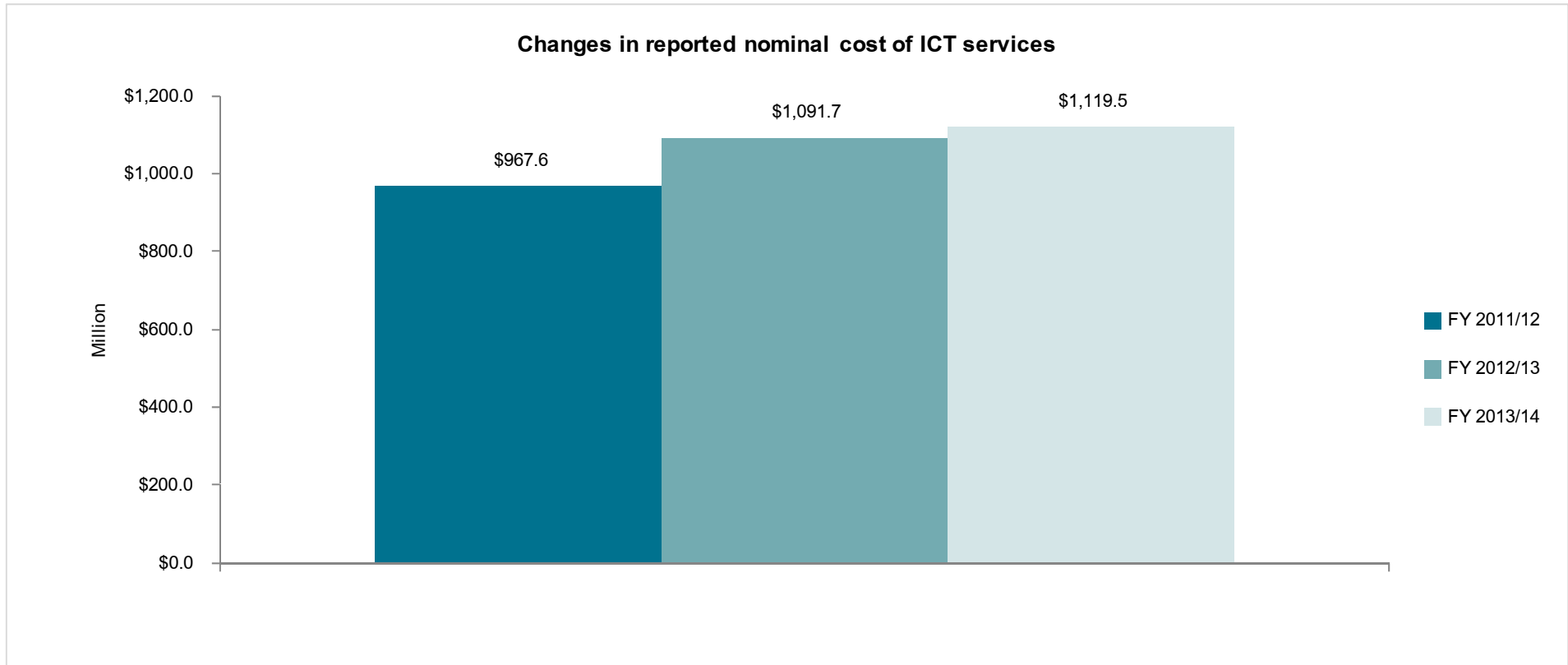
Medium and large agency cohorts made up 98.2% of ICT service expenditure in FY 2013/14, an increase of 1% from FY 2012/13



ICT expenditure of \$1,119.5m is up \$129.1m (or 13%) since FY 2011/12 when adjusted for inflation



Nominal spending has increased by \$151.9m (15.7%) since FY 2011/12, of which only \$27.8m (2.9%) is attributed to increases this year



A closer look at spending within agencies shows that the lifecycle of major projects, transition to ICT common capabilities, and changes in the use of contractors and recruitment practices drives most changes

A net nominal spending increase for the New Zealand full cohort of \$27.8m since FY 2012/13 results from nine agencies spending \$53.5m less and 17 agencies spending \$81.3m more

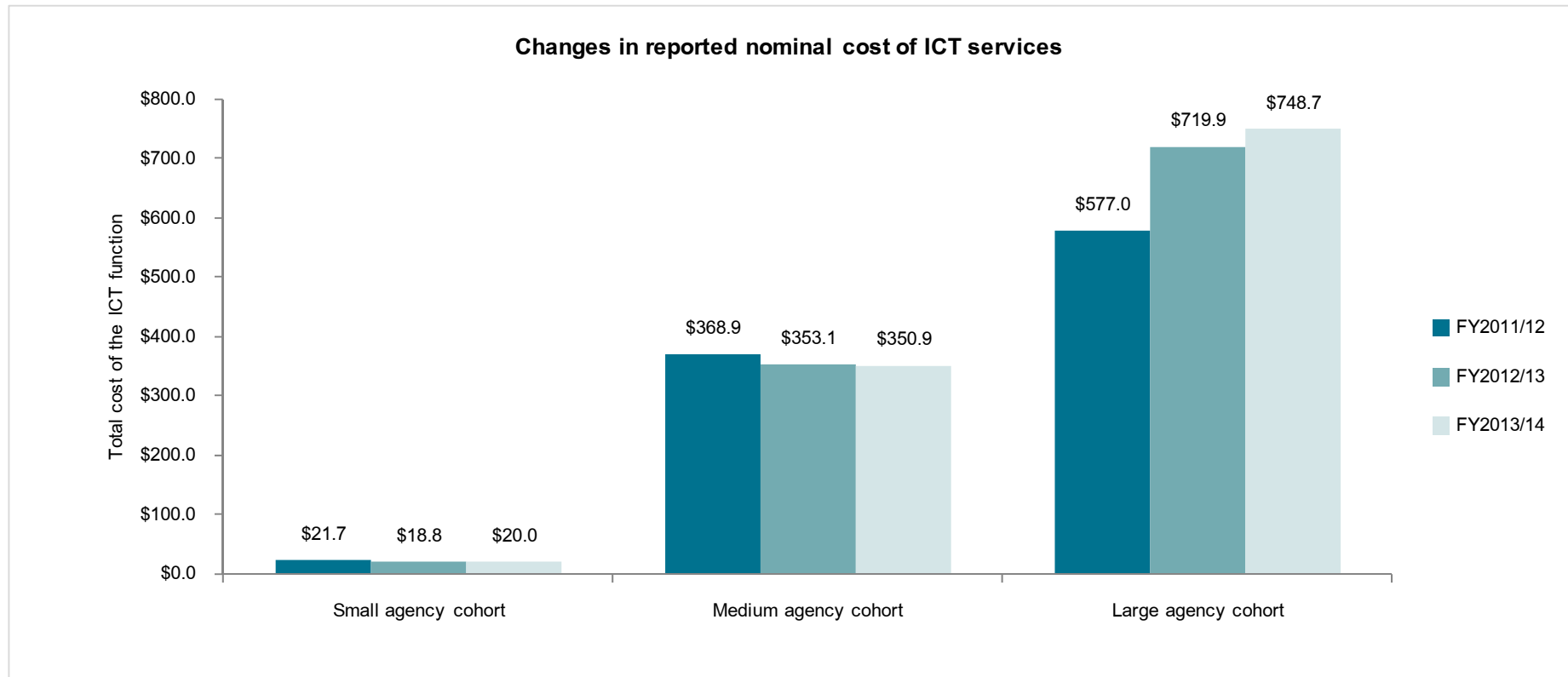
What we learned from agencies that reported spending less this year

- Four of the nine agencies reported \$51.2m (or 96%) of the total reported reduction \$53.5m reduction.
- The key reasons cited for reported decreases included:
 - Reduced capital spending due to moving to common capabilities (ie Infrastructure as a Service)
 - reduced capital expenditure on major projects
 - less use of contractors in favour of full time employees
 - Reduction in service contract costs

What we learned from agencies that reported spending more this year

- Seven of the 17 agencies reported \$73.7m (or 91%) of the reported \$81.3m increase.
- The key reasons cited for reported increases included:
 - project and running costs of large ICT initiatives
 - filling vacant positions
 - systems modernisation and asset refresh
 - transition to common capabilities

Reported costs have remained relatively flat in the small and medium agency cohorts but there have been ongoing increases in the large agency cohort



Note Caveat: The Ministry of Business, Innovation and Employment (MBIE) merger had an impact on the comparative metrics across cohorts, with Department of Building and Housing (DBH) moving out of the small agency cohort, and Department of Labour (DOL) and Ministry of Economic Development (MED) out of the medium agency cohort, to now all be included in the large agency cohort as MBIE. Note that the significant lower cost for the large cohort, and higher costs for the small and medium cohorts in FY 2011/12 relate to this merger. DBH, DOL and MED spent \$4.1m, \$30.5m and \$34.2m respectively on ICT in FY 2011/12. If these costs (\$68.8m) were reflected in the large cohort costs for FY 2011/12 the relative cost would be \$645.8m. Please see the data quality section of this chapter for more detail.

Removing the impact of the MBIE merger, the estimated ICT costs by cohort for FY 2011/12 tell a different story

Small agency cohort

A reported net nominal spending **decrease for the small agency cohort of \$1.7m** since FY 2011/12.

However, removing the impact of the MBIE merger, by removing the \$4.1m reduction due to DBH moving to the large agency cohort (based on DBH's FY 11/12 reported ICT costs), it is estimated that the **small cohort ICT costs would have increased by \$2.4m** from FY 2011/12 without this change.

Medium agency cohort

A reported net nominal spending **decrease for the medium agency cohort of \$18.0m** since FY 2011/12.

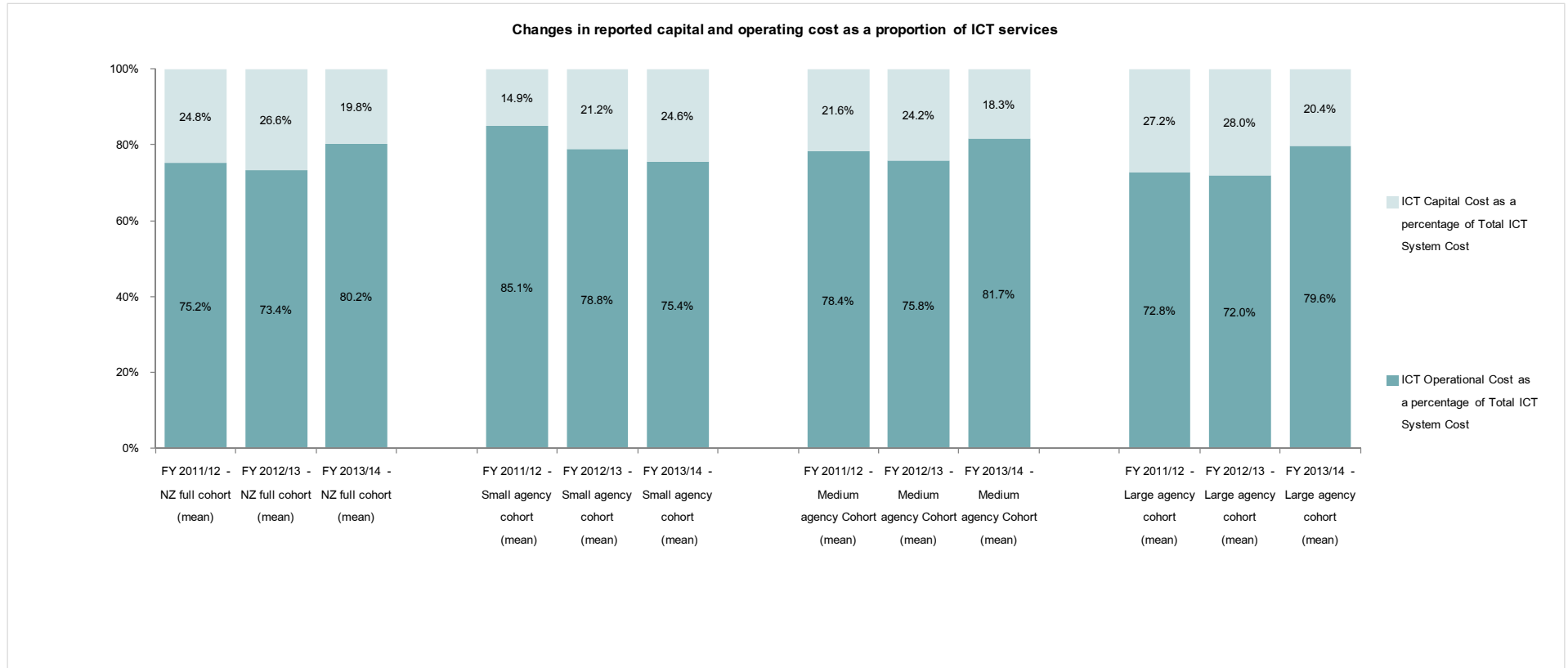
However, removing the impact of the MBIE merger, by removing the \$64.7m reduction due to MED and DOL moving to the large agency cohort (based on MED's and DOL's FY 11/12 reported ICT costs), it is estimated that the **medium cohort ICT costs would have increased by \$46.7m** from FY 2011/12 without this change.

Large agency cohort

A reported net nominal spending **increase for the New Zealand full cohort of \$171.7m** since FY 2011/12

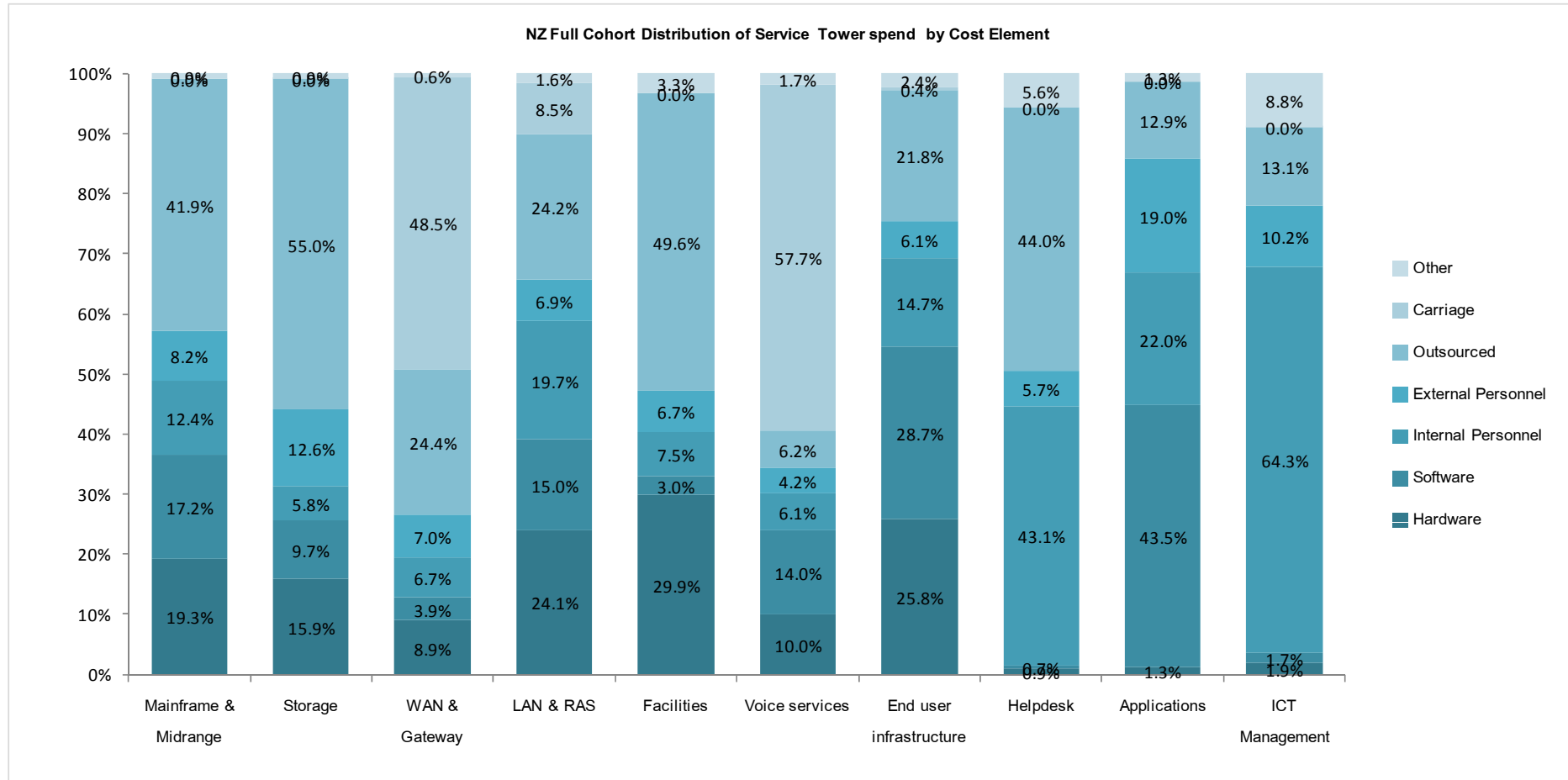
However, removing the impact of the MBIE merger, by including the DBH, DOL and MED costs of \$68.8m in the large agency cohort for FY 2011/12, it is estimated that the **large cohort ICT costs would have increased by \$102.9m from FY 2011/12** without this change.

Large and medium cohorts have reported ongoing decreases in the proportion of capital spend between FY 2012/13 and FY 2013/14

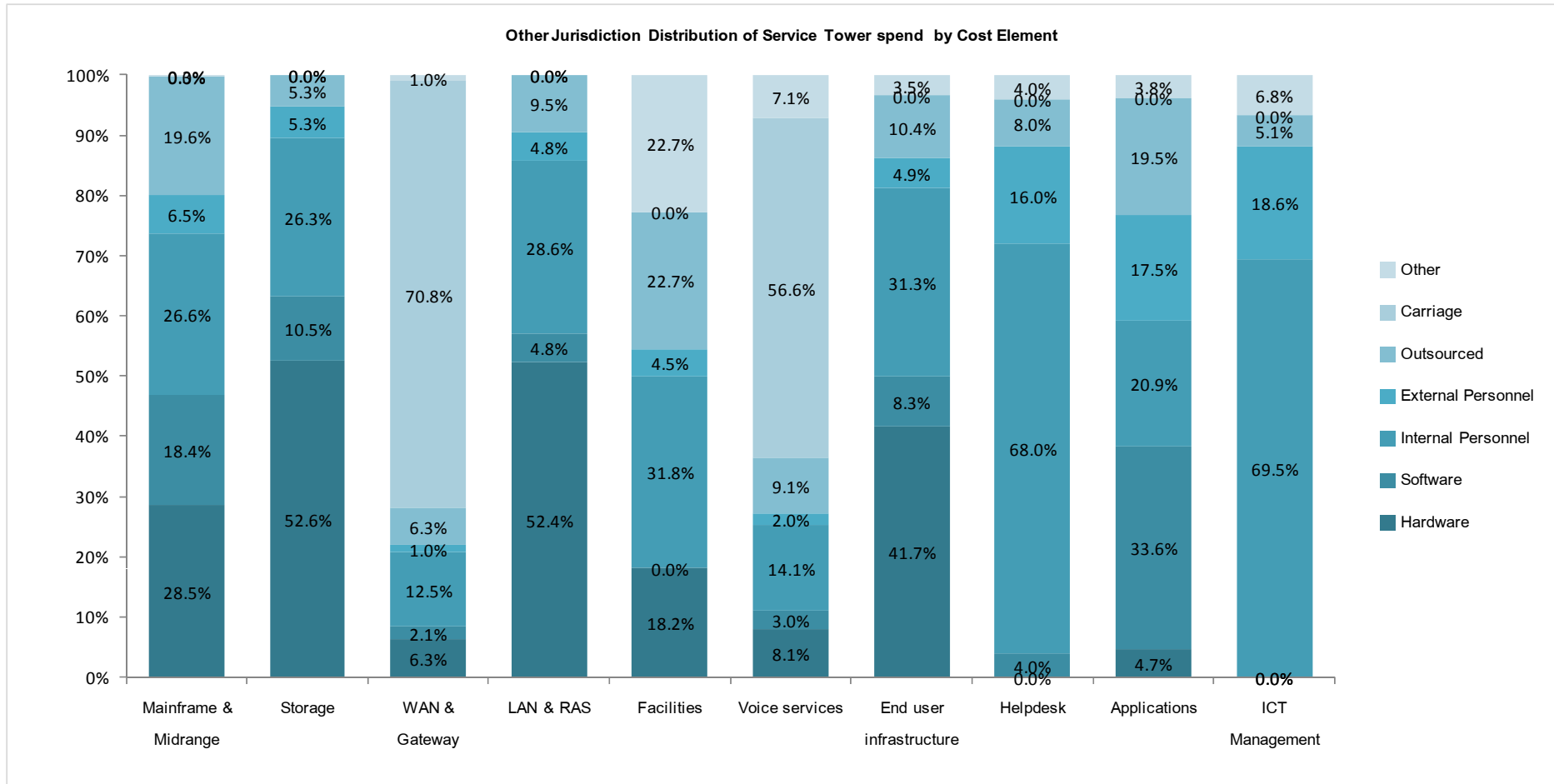


With the delivery of the Government ICT Strategy and Action Plan it is expected that operating expenses will increase as a proportion of spend over the longer term. It is a pleasing result to see that overall operating expenses as a proportion of ICT spend is increasing across the NZ cohort as it suggests that agencies are moving to the use of common capabilities.

New Zealand full cohort service tower measurement has established a view of common cost elements to better understand cost drivers in each tower



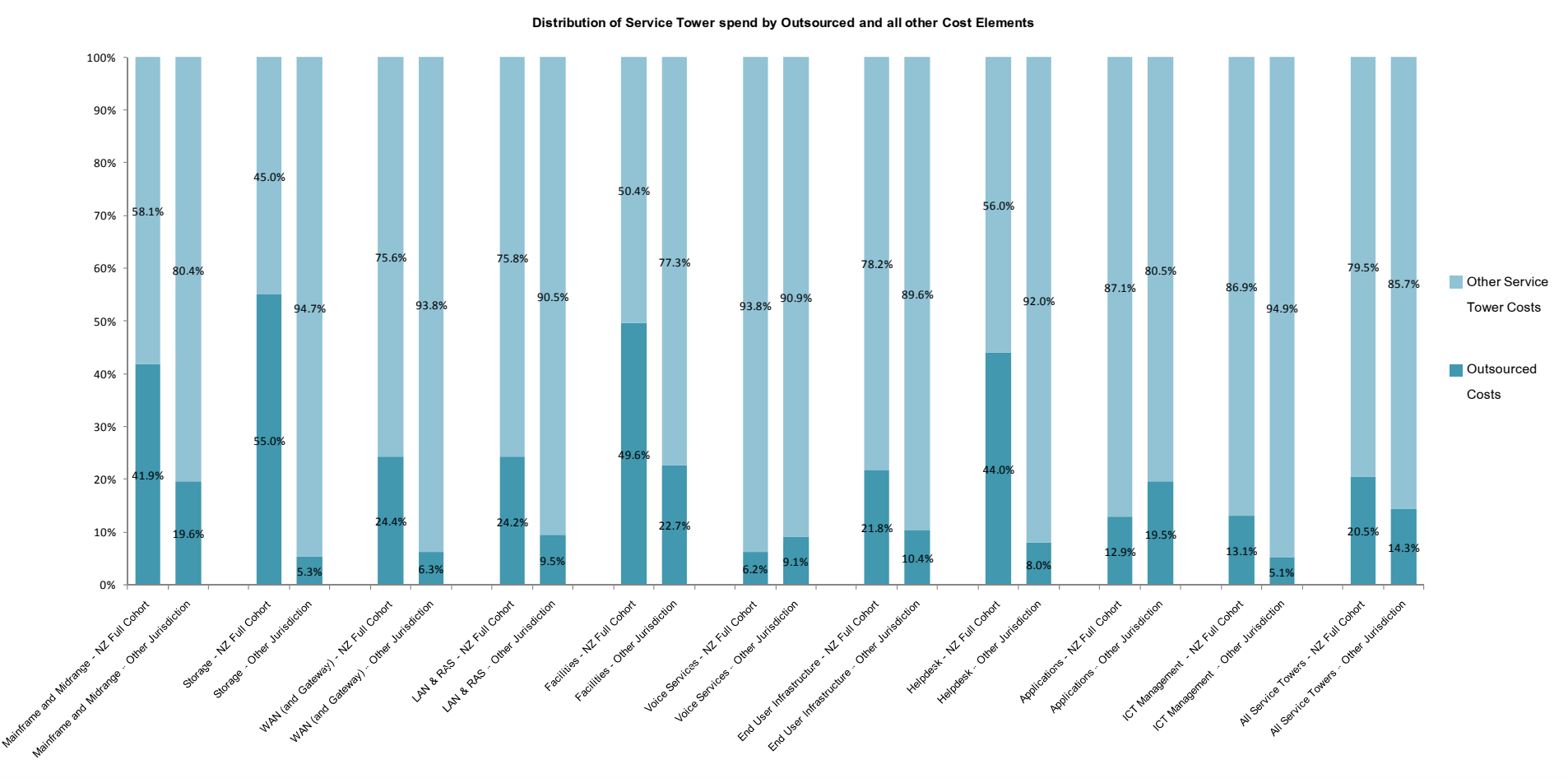
New service tower data has also enabled comparison with service tower information from overseas jurisdictions and sharing lessons learnt



NZ agencies have a significantly higher proportion of Outsourced costs than comparators in the Mainframe & Midrange, Storage, Facilities and Helpdesk Service Towers, where this is the reverse for the WAN and Gateway Service Tower.

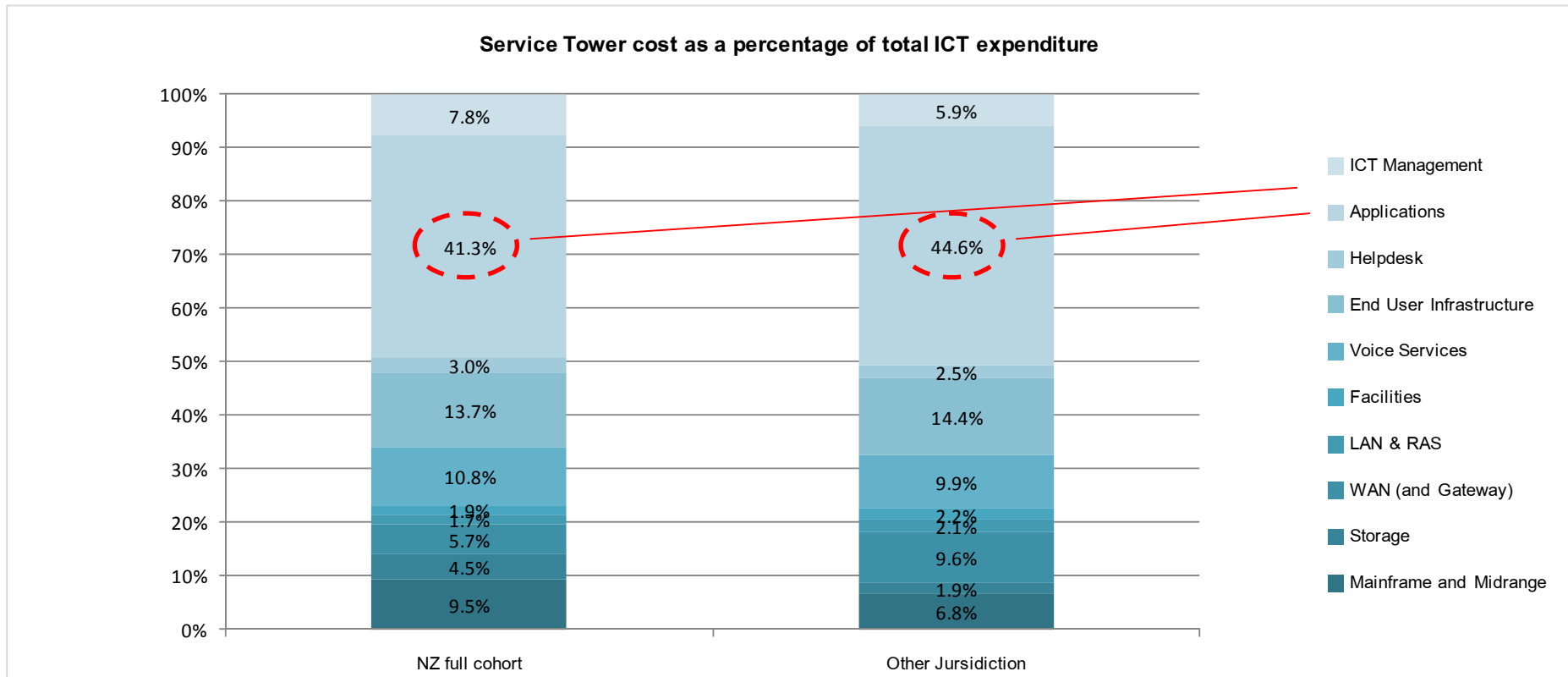
NZ agencies have a significantly lower proportion of Hardware costs than comparators in the LAN & RAS Service Tower, and a significantly higher proportion of Software v Hardware costs than comparators in the End User Infrastructure Service Tower.

New Zealand outsources more than a comparator jurisdiction, but improved comparator data and discussion with more jurisdictions is needed for more meaningful insight



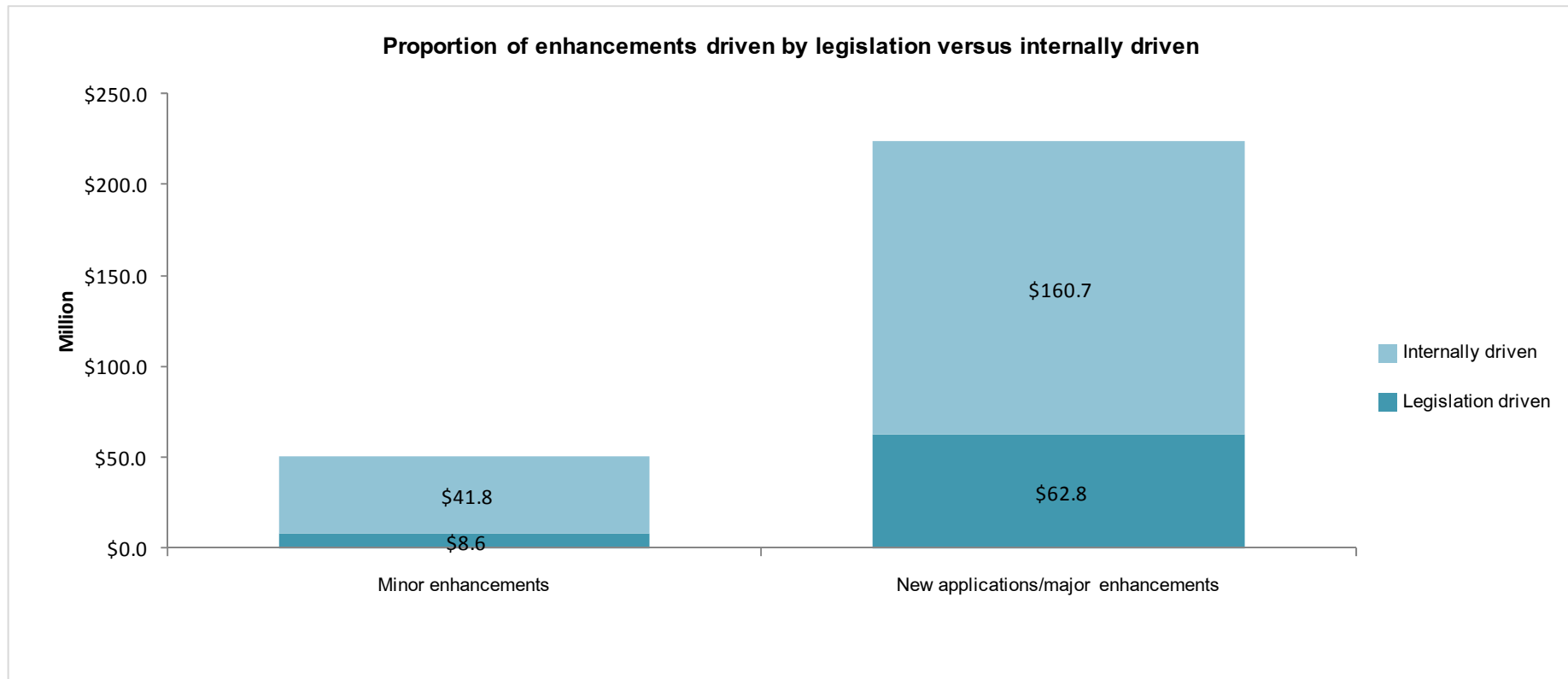
Overall the level of outsourcing has increased by 3% from FY 2012/13.

The applications tower is the highest proportion of expenditure, warranting a better understanding of its business value and cost drivers



Drivers for spend on applications is an area that warrants further investigation. In particular, the relationship between an application and the benefits to the agency, and its outcomes, warrants attention. The percentage of applications spend as a percentage of total ICT expenditure reduced by 6.5% from FY 2012/13.

77% of minor enhancements and 72% of new applications/major enhancements are internally driven in FY 2013/14, an increase of 2% and 5% respectively from FY 2012/13

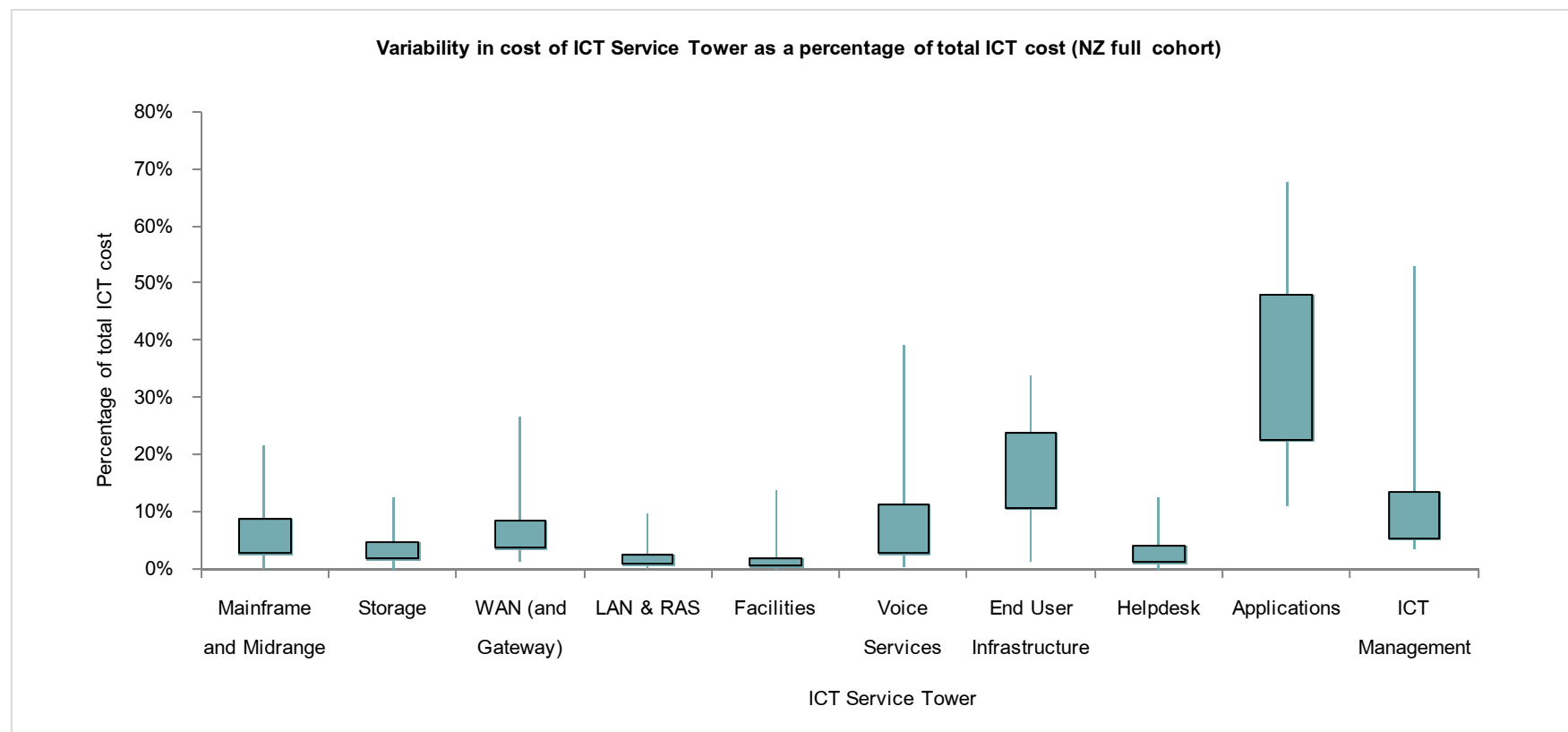


“Driven by legislation” is defined as: development or enhancements that are a direct response to an external mandate for change eg, compliance, regulation, legislation and formal government decisions

“Internally driven” is defined as: new software and enhancements not as a direct response to an external mandate for change.

“Major” is defined as: more than \$100k; “Minor” is defined as: no more than \$100k

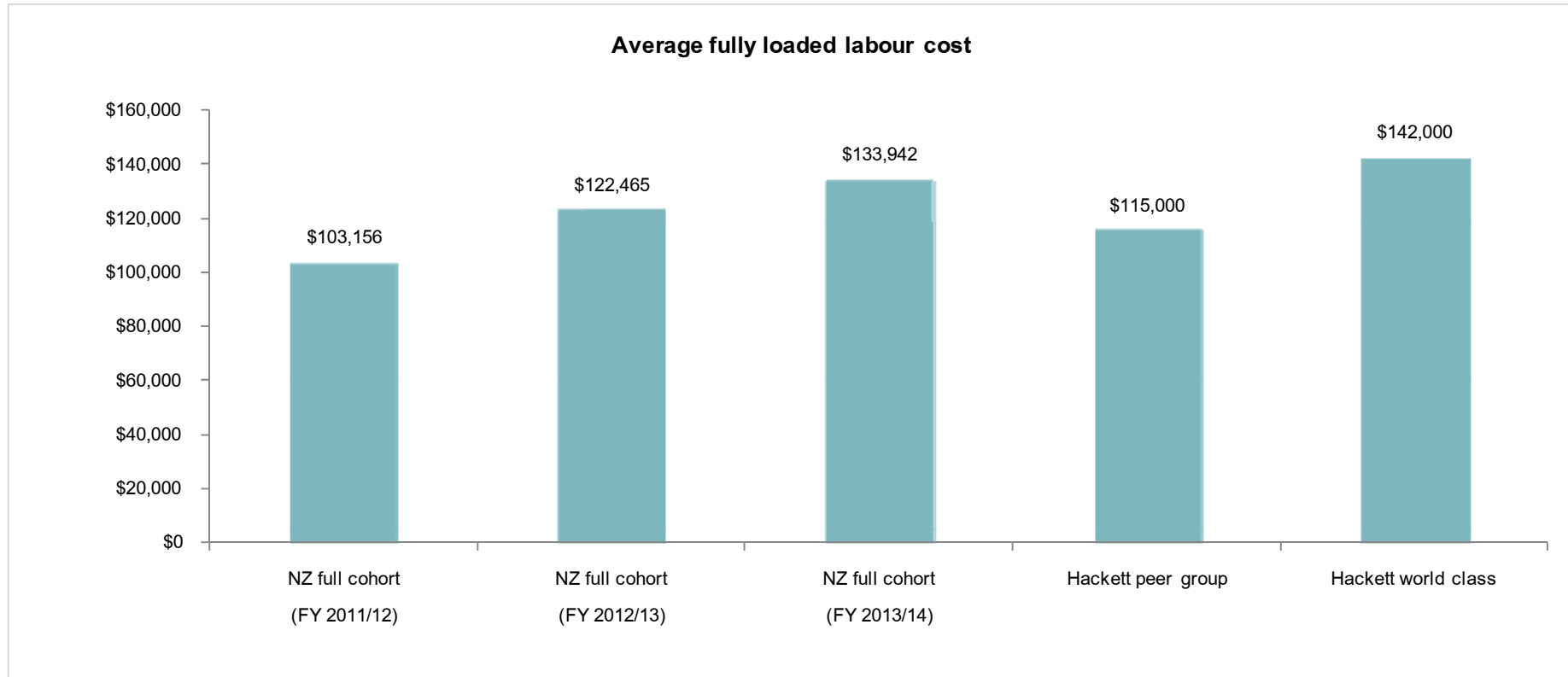
Variability in spending by service tower suggests savings opportunities, but more detailed analysis is needed to pinpoint specific opportunities



The high degree of variability in the distribution of spend across service towers suggests there may be opportunities for agencies to reduce the cost of ICT by service tower (e.g. through consolidation and standardisation).

Volumetric data is needed to compare specific cost drivers behind the variability in spend by service tower.

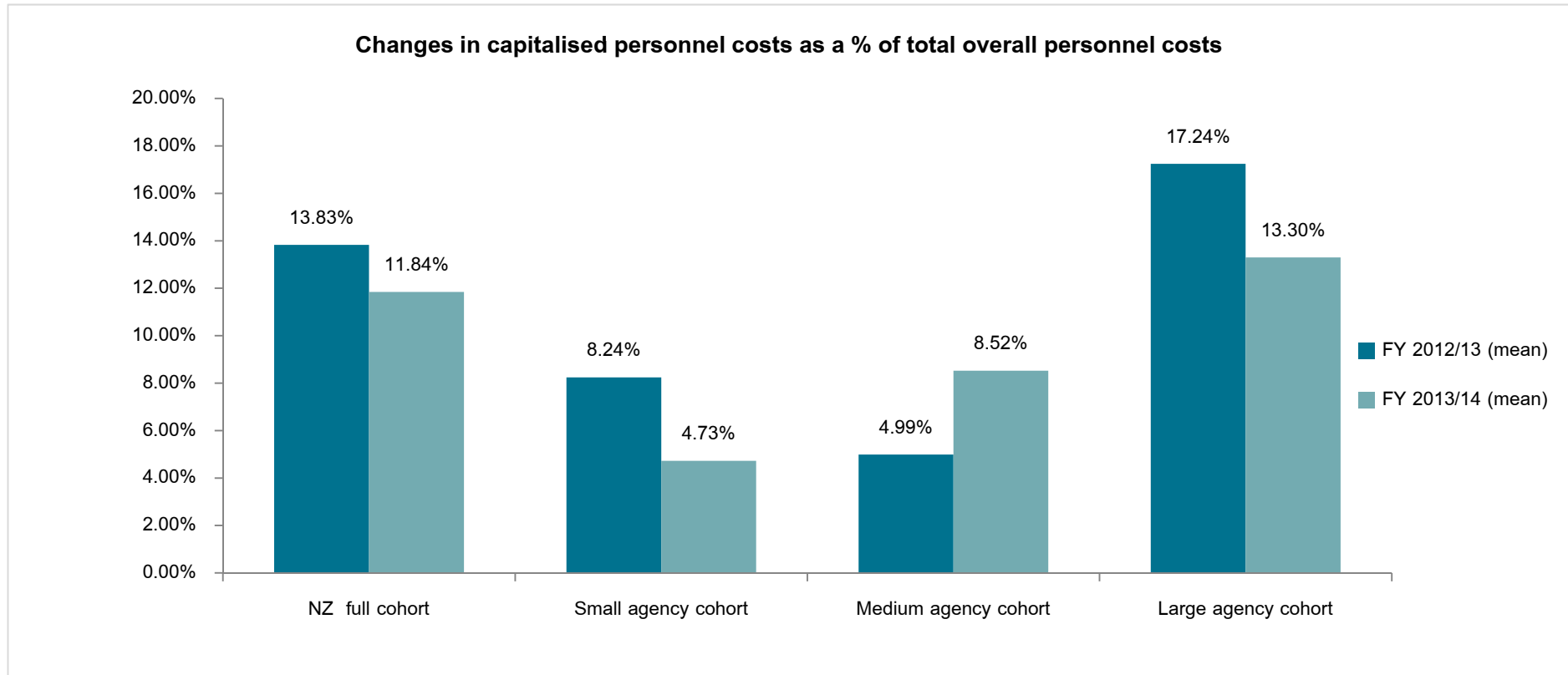
The internal personnel cost has risen by 30% since FY 2011/12, which warrants further investigation as personnel is 33% of ICT expenditure



Labour costs make up 33% of the total cost of the ICT function, and reported New Zealand labour costs have been greater than the international peer group comparator for the last two years. Potential reasons for the increase could be:

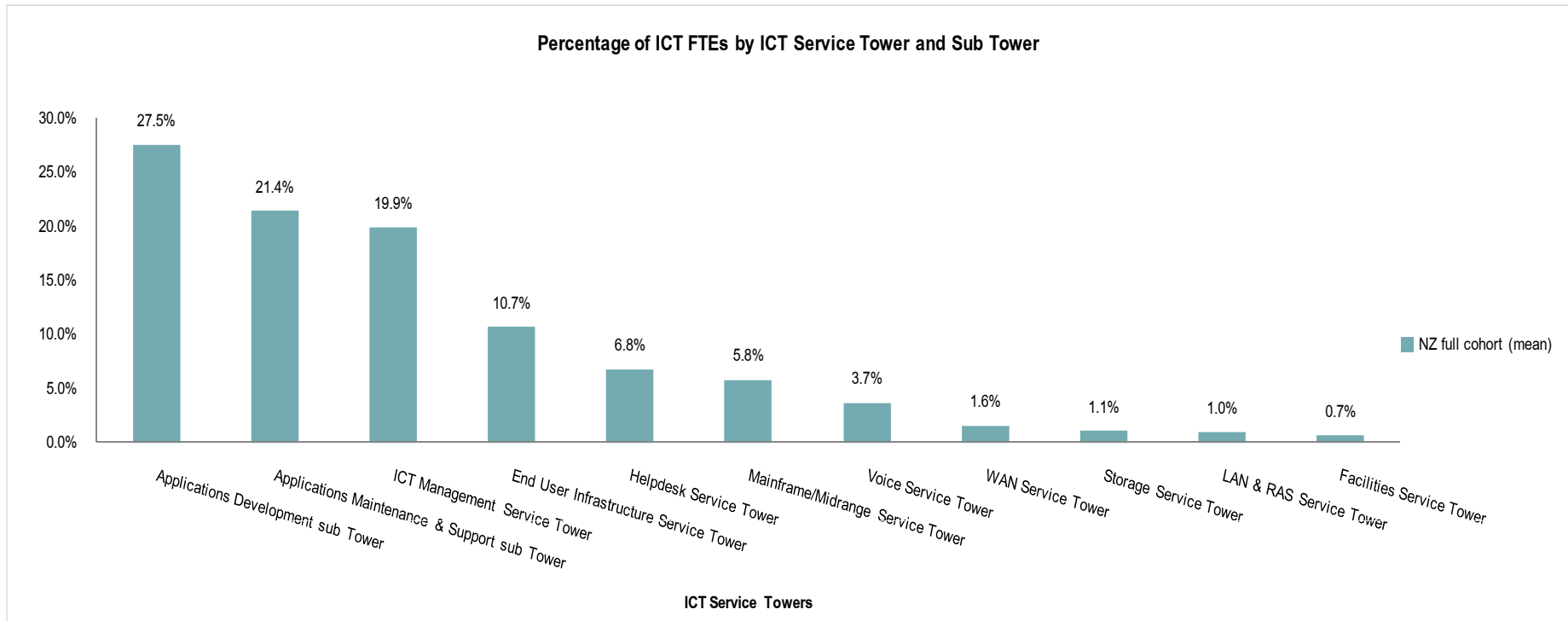
- Contractors previously not included in the fully loaded labour cost, replaced by permanent employees who are included
- Shift to higher paid ICT resources.

Capitalised personnel costs as a percentage of total overall personnel costs has decreased overall by 2% from FY 2012/13, and there is significant variation across the cohorts



When Total personnel costs and Capitalised personnel costs are added together to arrive at a figure for total overall personnel costs, Capitalised personnel costs as a percentage of total overall costs fluctuates considerably across cohorts and the two years reported.

ICT FTEs are concentrated in two service towers: Applications and ICT Management

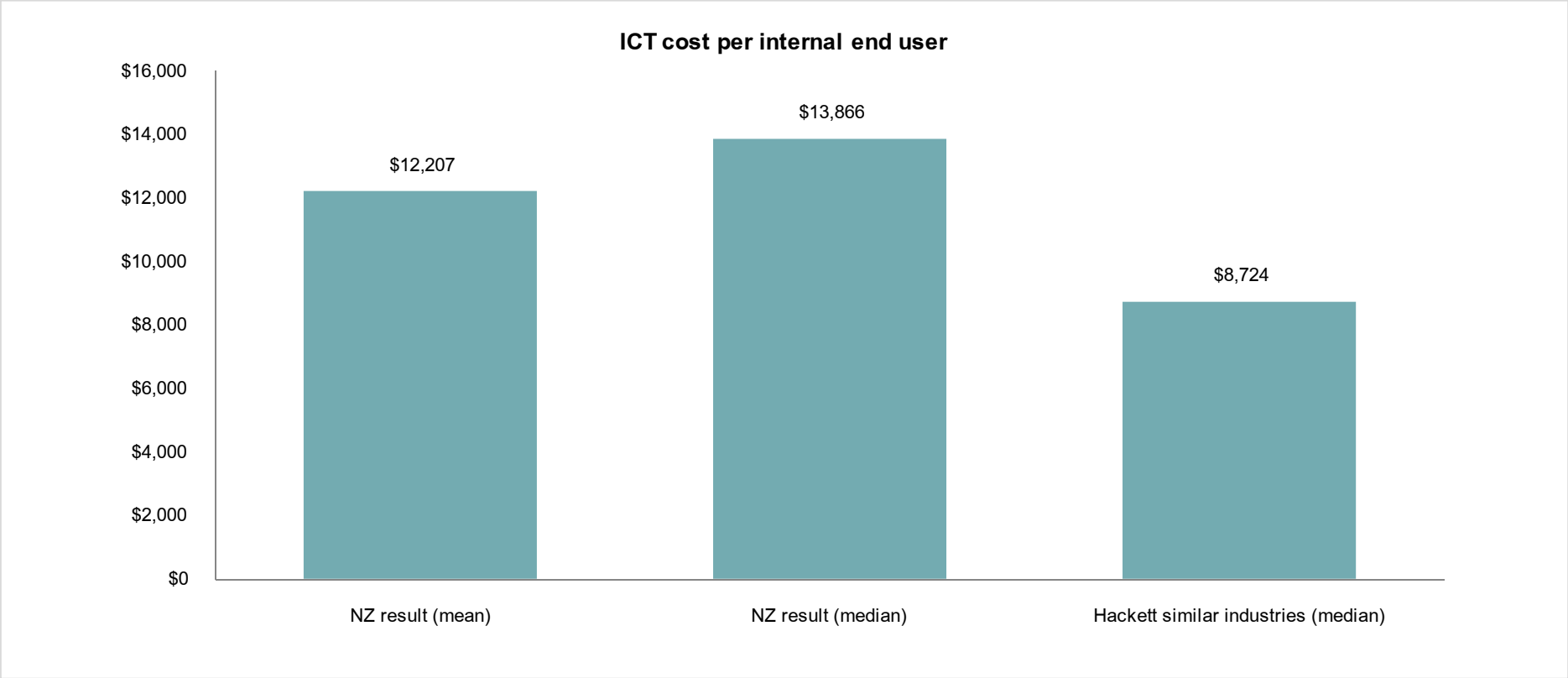


ICT management, End user infrastructure and Helpdesk are the only service towers where resourcing is significantly less than for the other jurisdiction, with the other jurisdiction results being 22.5%, 13.2% and 8.4% respectively. There has been an increase in Applications maintenance this year meaning the NZ result is now comparable to the other jurisdiction result.

4. EFFICIENCY

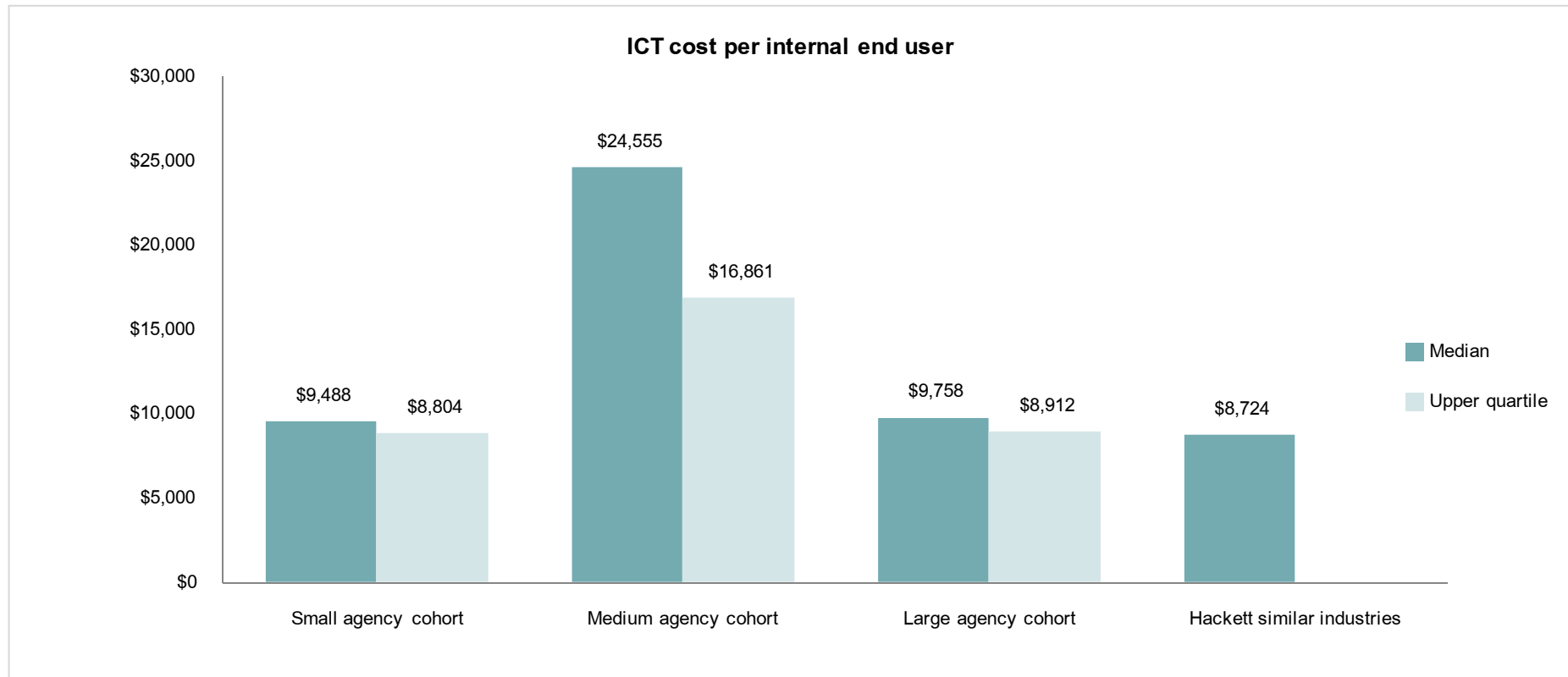
Efficiency findings report on the ratio of input to output (or the use of resources in a manner that minimises cost, effort, and time) as well as opportunities for efficiency gains and their implications for gross savings. Findings also compare NZ agency efficiency with international comparators and examine changes in efficiency since the previous reporting periods, adjusting for inflation as appropriate.

The mean and median ICT cost per internal end user are higher than the international benchmark



A new definition for end user was introduced in FY 2012/13. The definition for 'internal end user' is the same as the definition for end user used in previous years, whereas 'total end users' also includes external end users provided with end user devices or services in the agency.

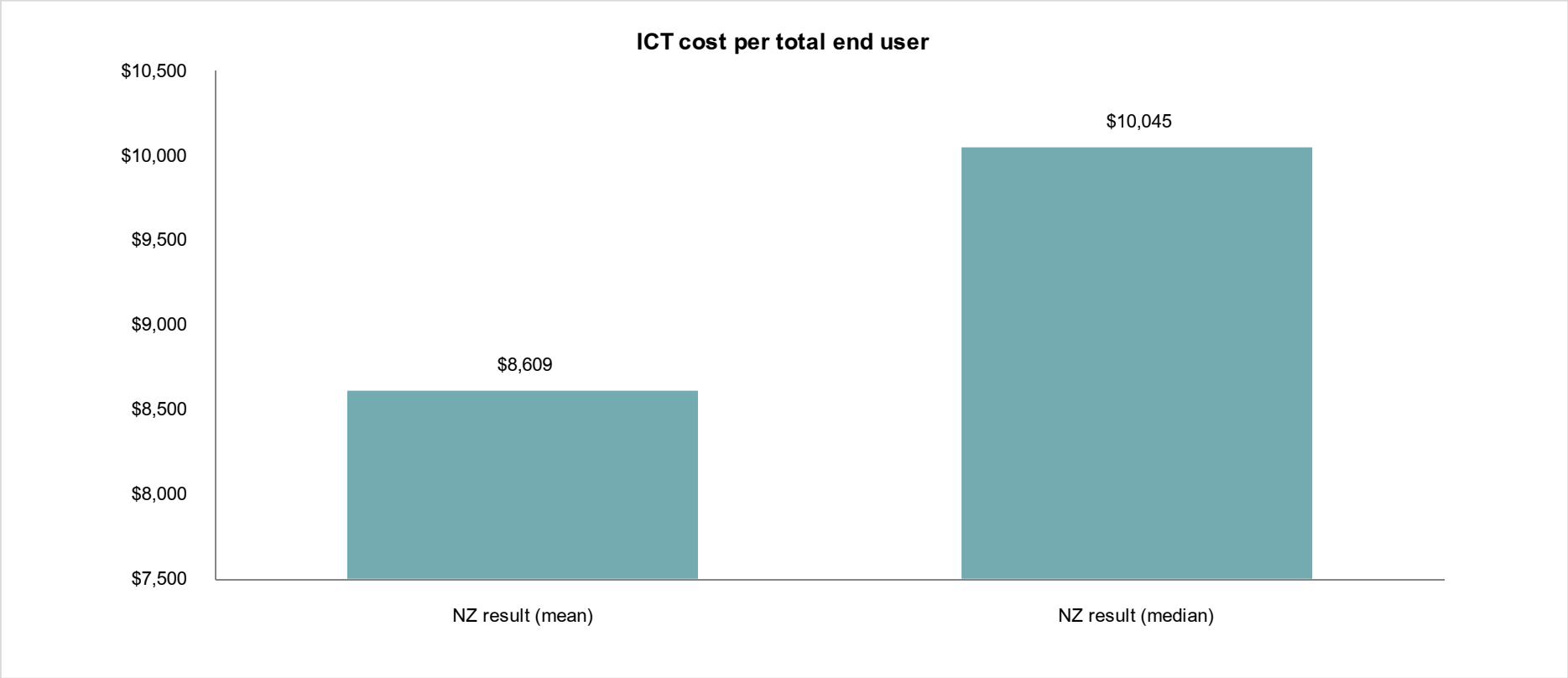
The medium agency cohort has significantly higher ICT cost per internal end user than the other cohorts, and all cohort results are higher than international comparators



The medium agency cohort median result (\$24,555) is 181% higher than the Hackett benchmark and 152% higher than the large agency cohort. This result is likely because many agencies in the medium agency cohort have a large number of line-of-business applications supporting a variety of business services to sometimes quite varied customer segments, yet relatively few internal end users.

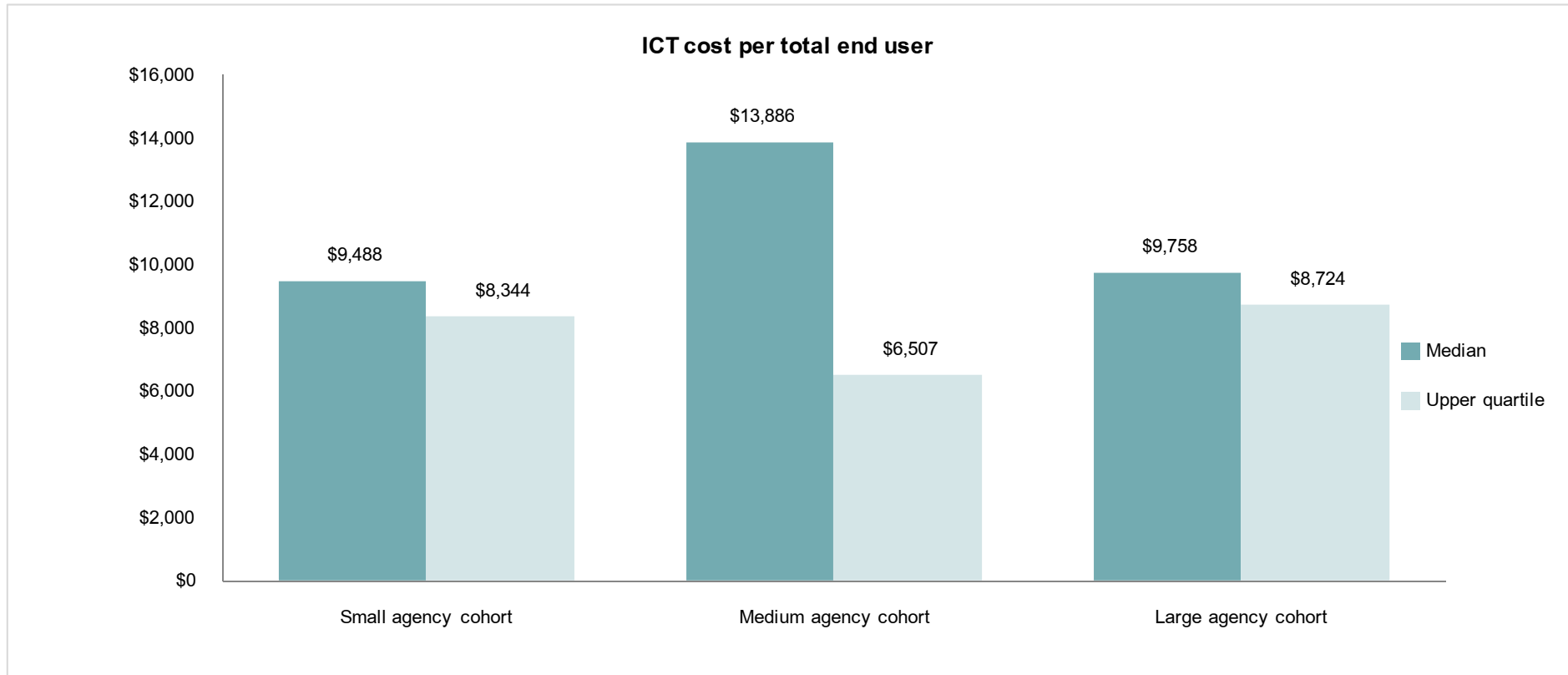
This graph shows that, at the median, the small agency cohort (\$9,488) is 9% higher than the Hackett world similar industries benchmark (\$8,724), and the large agency cohort (\$9,758) is 12% higher.

Similar to the cost per internal end user, the mean result for cost per total end user is significantly lower than the median result



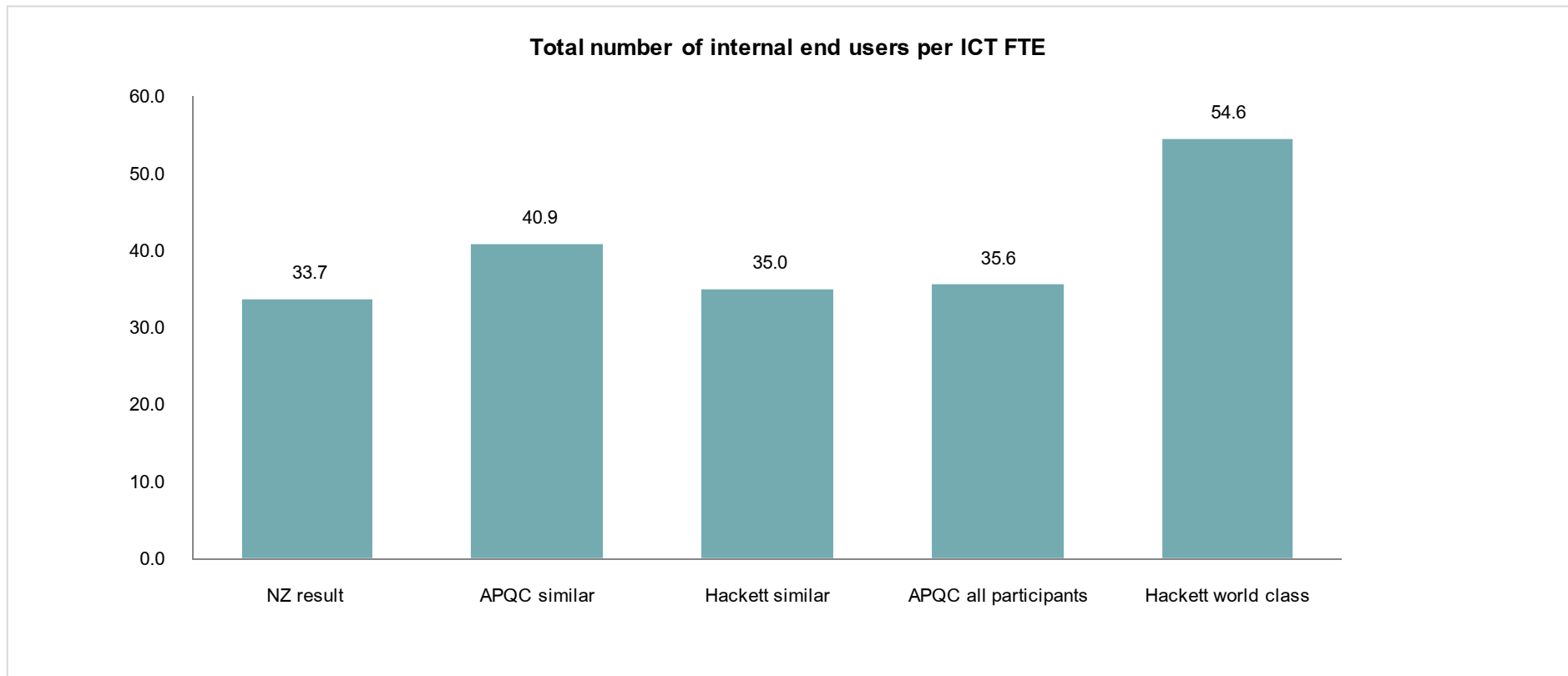
A new definition for end user was introduced in FY 2012/13. The definition for 'internal end user' is the same as the definition for end user used in previous years, whereas 'total end users' also includes external end users provided with end user devices or services in the agency.

The medium agency cohort has significantly higher ICT costs per total end users than other cohorts

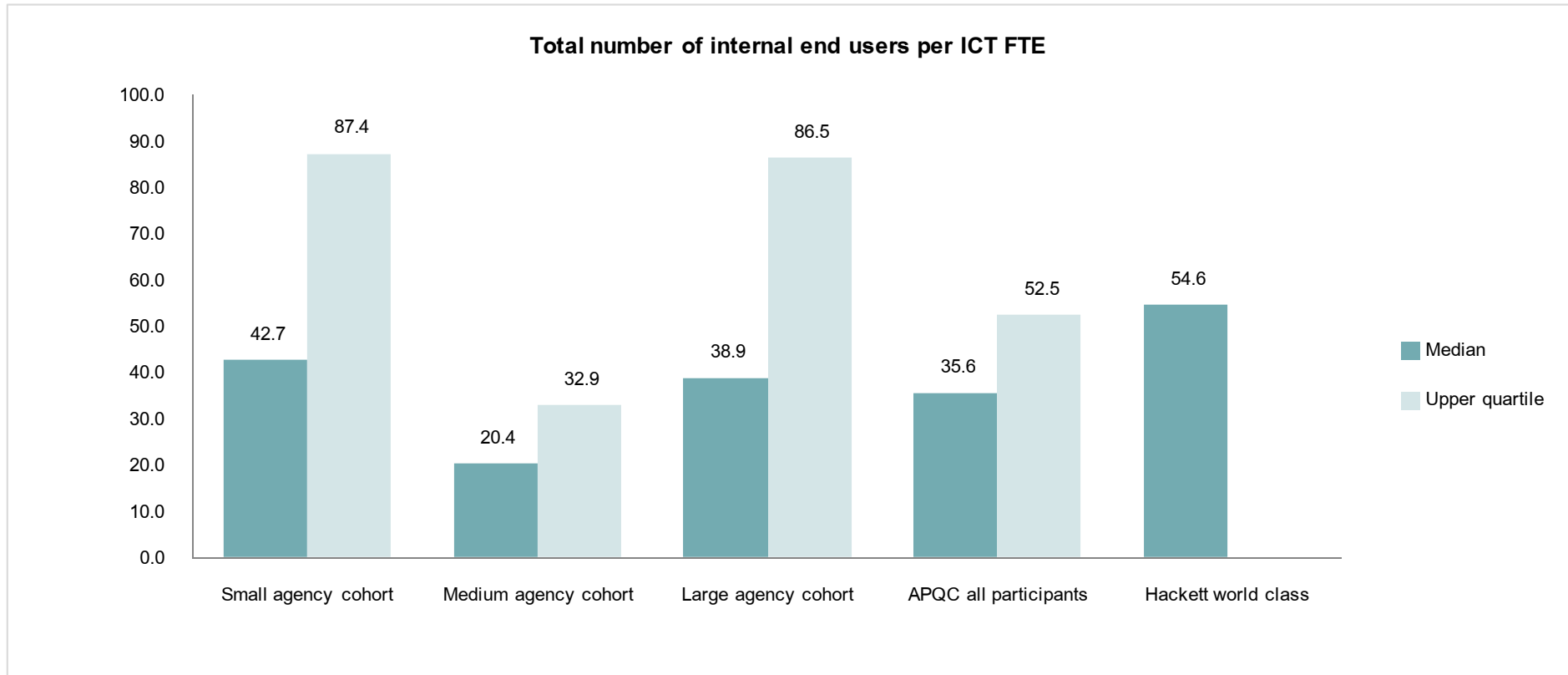


A new definition for end user was introduced in FY 2012/13. The definition for 'internal end user' is the same as the definition for end user used in previous years, whereas 'total end users' also includes external end users provided with end user devices or services in the agency.

Overall, New Zealand agencies report a lower number of internal end users per ICT FTE than international comparators



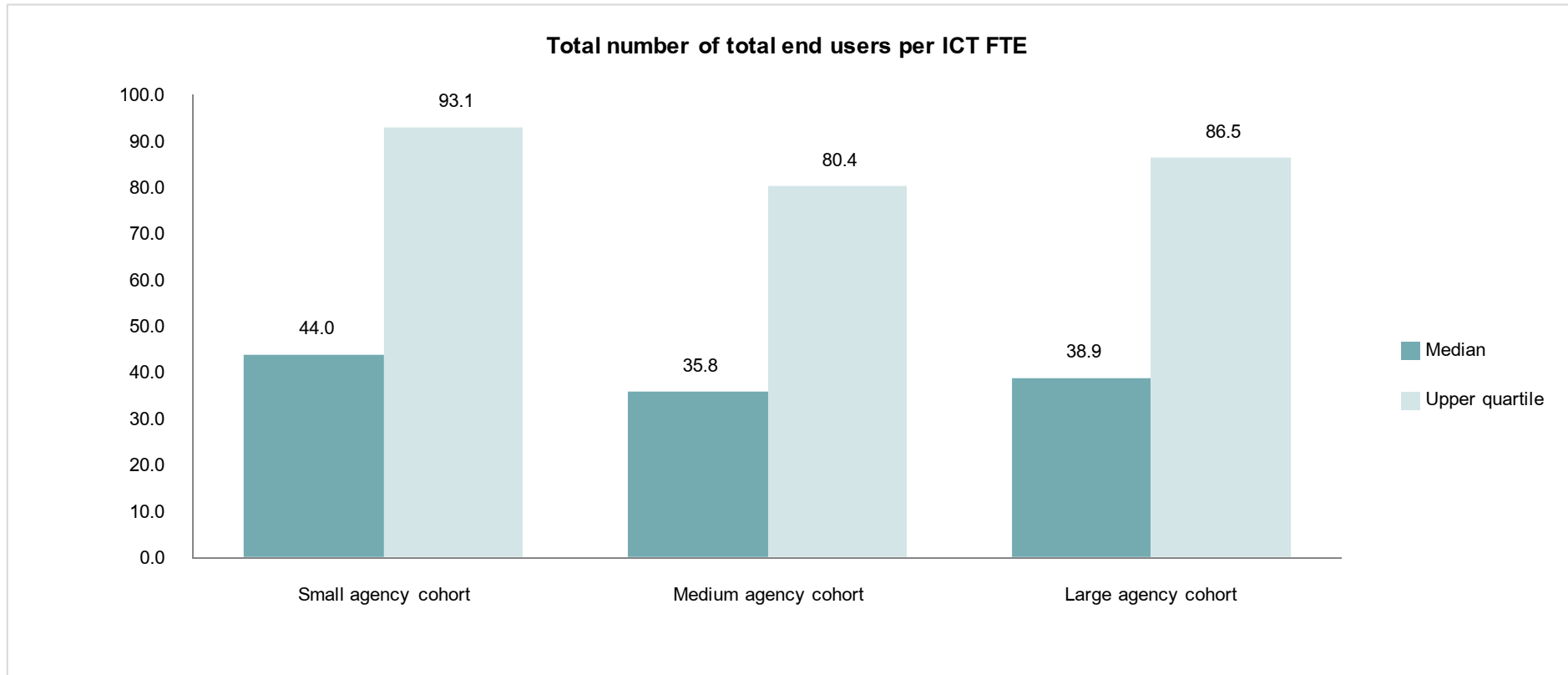
The medium cohort has fewer internal end users per ICT FTE than the small and the large agency cohorts



The degree of outsourcing provides some context to these results:

- large agency cohort outsourced costs make up 18.9% of total ICT spend
- medium agency cohort outsourced costs make up 23.9% of total ICT spend
- small agency cohort outsourced costs make up 24.7% of total ICT spend.

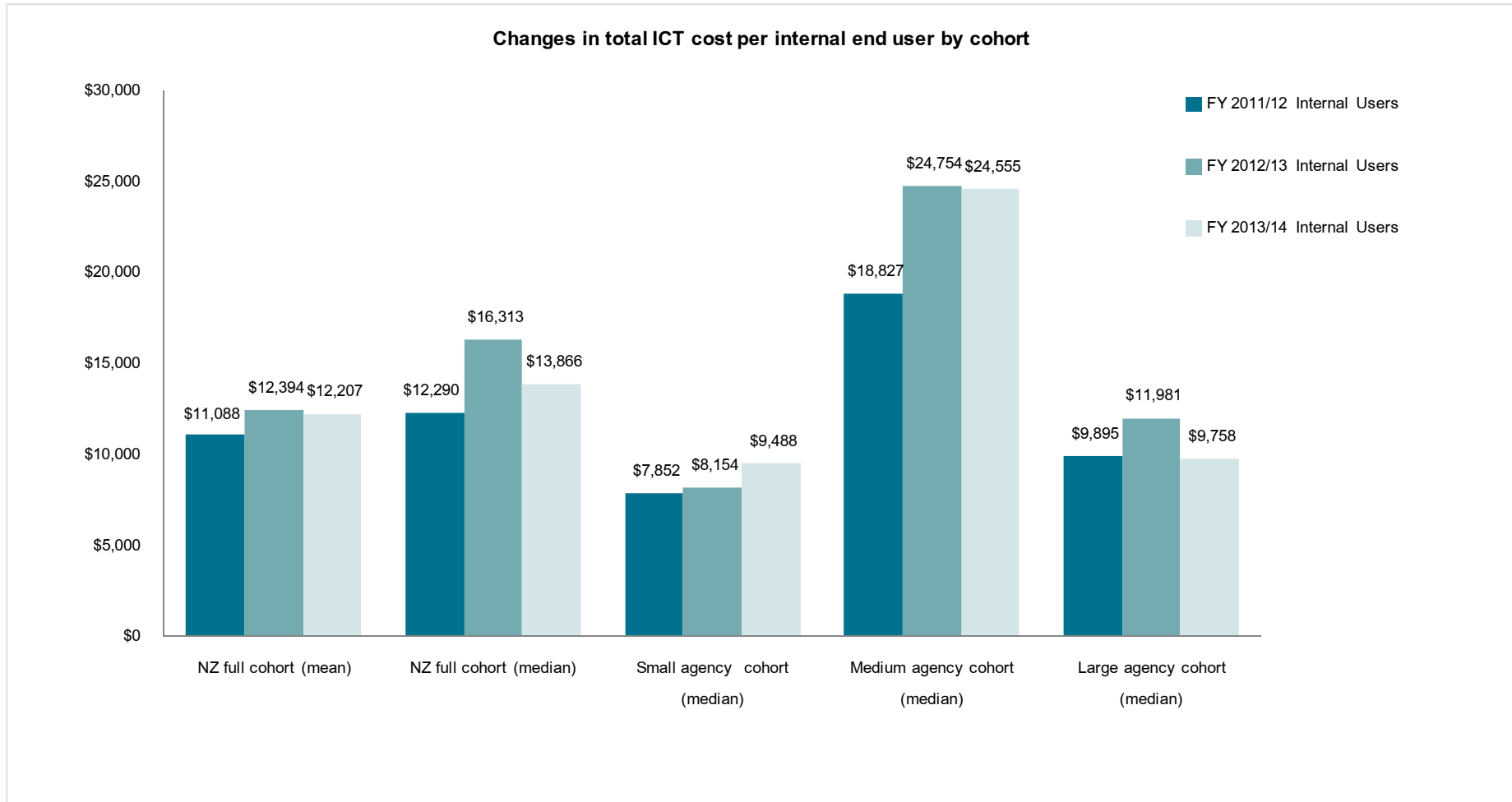
The medium and large agency cohorts have fewer total end users per ICT FTE than the small agency cohort



The degree of outsourcing provides some context to these results:

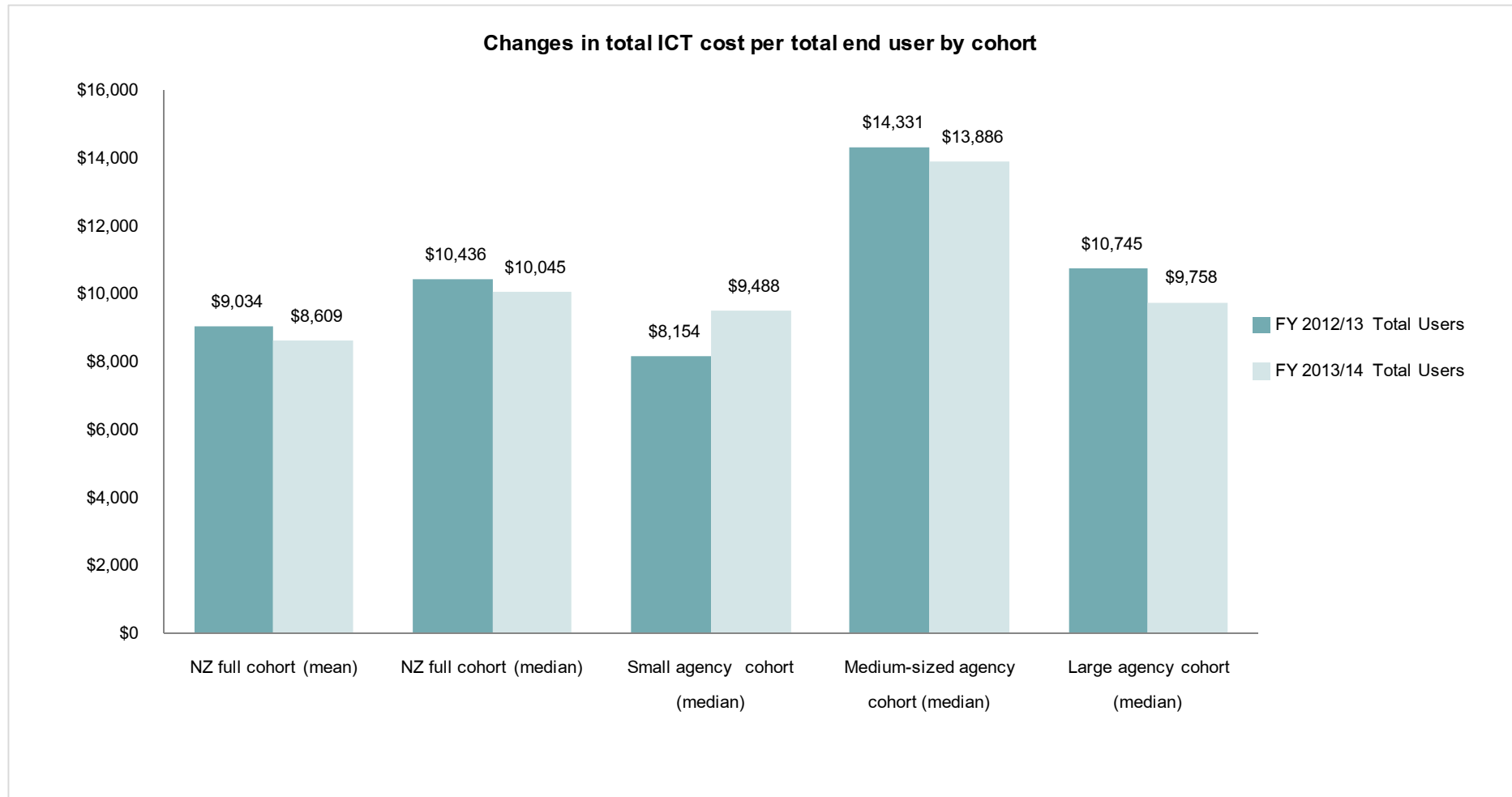
- large agency cohort outsourced costs make up 18.9% of total ICT spend
- medium agency cohort outsourced costs make up 23.9% of total ICT spend
- small agency cohort outsourced costs make up 24.7% of total ICT spend.

Overall, the total ICT cost per internal end user has increased since FY 2011/12, but there has been a small decrease since FY 2012/13



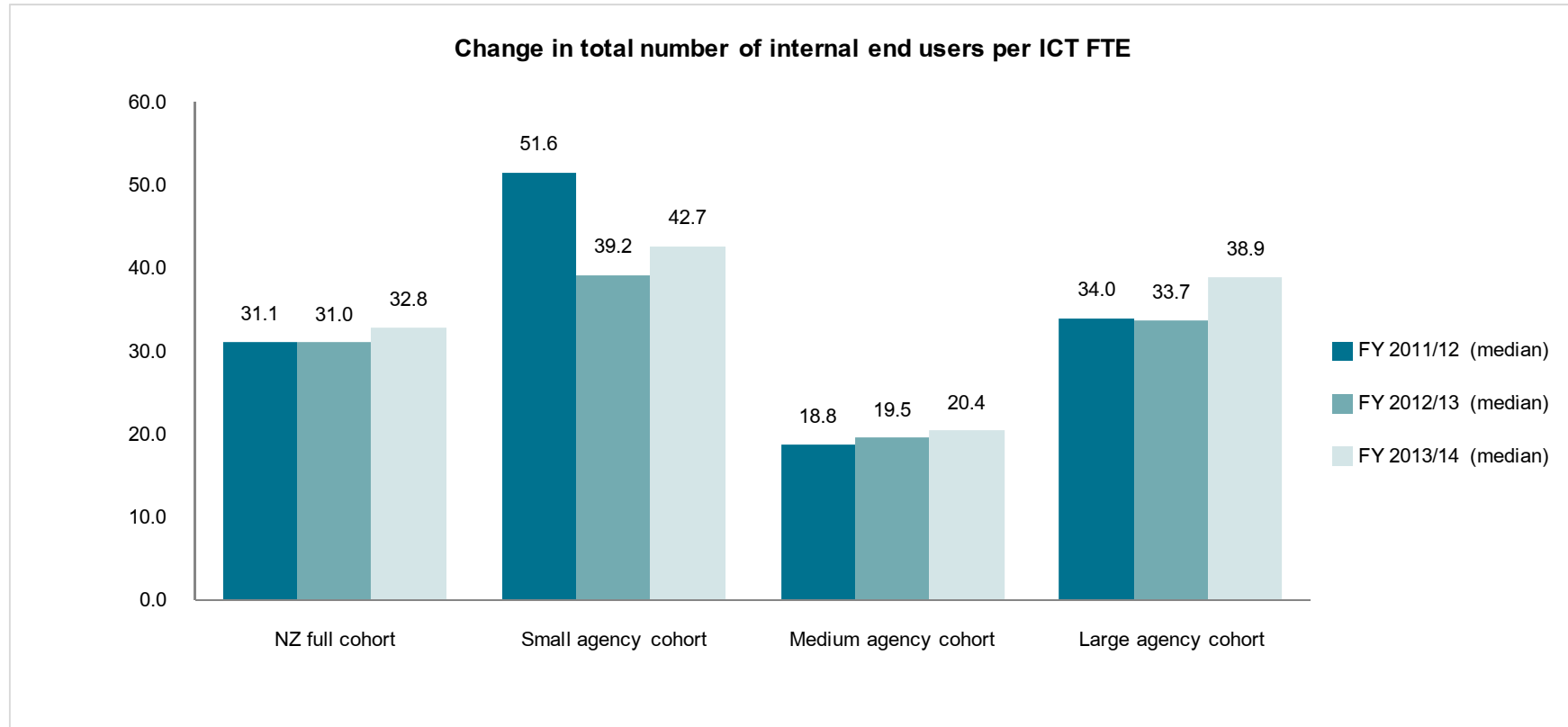
The number of internal end users has increased from 87,270 in FY 2011/12 to 91,716 in FY 2013/14. Had the number of end users stayed static since FY 2011/12, the total ICT cost per internal end user would be higher, due to the \$151.9m increase in ICT spend.

Overall, the total ICT cost per total end user has decreased slightly since FY 2012/13



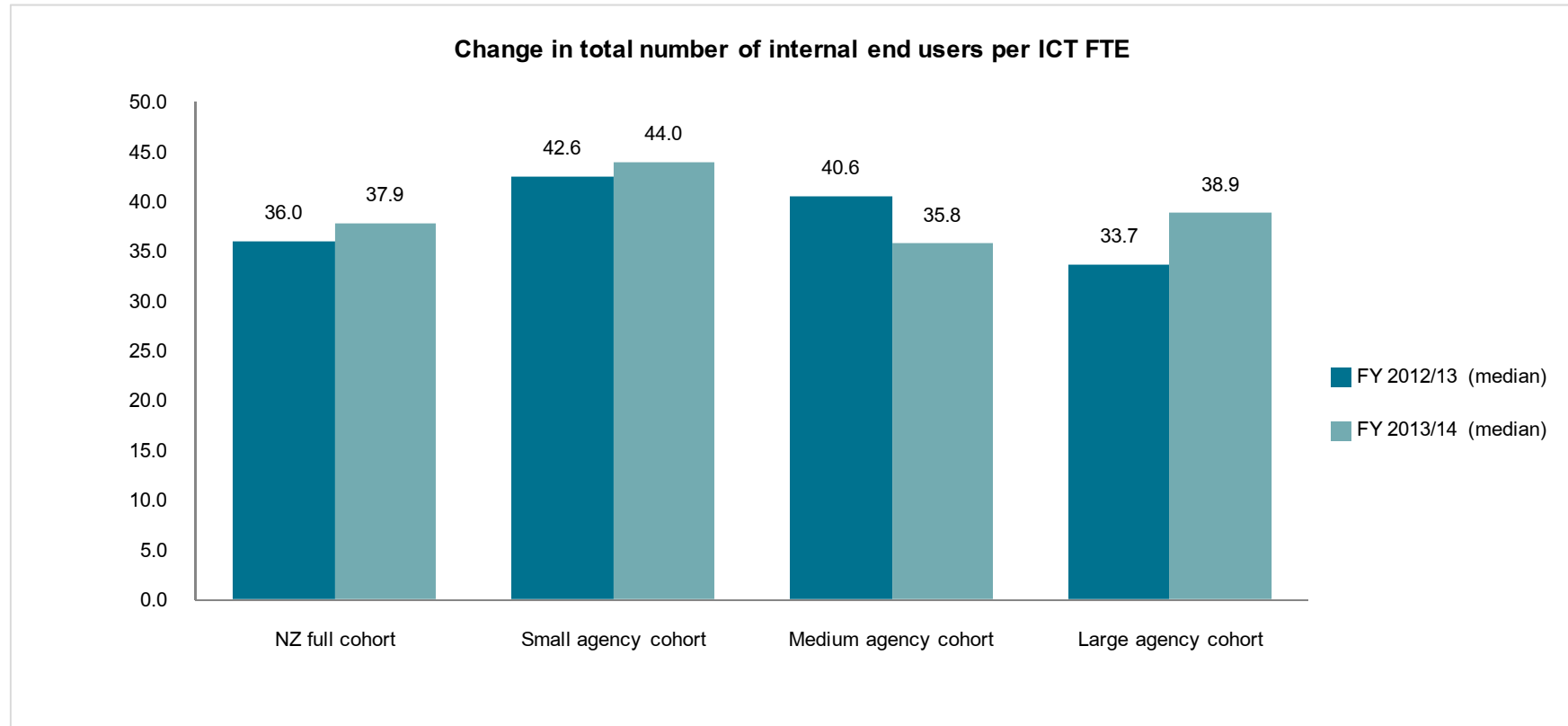
The number of total end users has increased from 120,843 in FY 2012/13 to 130,038 in FY 2013/14. Had the number of end users stayed static since FY 2011/12, the total ICT cost per total end user would be higher, due to the \$151.9m increase in ICT spend.

The total number of internal end users per ICT FTE for the small cohort has been variable, the medium cohort has reported similar results across years, and there has been an increase in the large cohort from previous years



Medium agencies tend to have a smaller number of end users, but still operate a relatively complex ICT environment, making it more difficult for them to realise scalability from their services.

The total number of end users per ICT FTE has increased for the small and large cohorts, but has decreased for the medium cohort

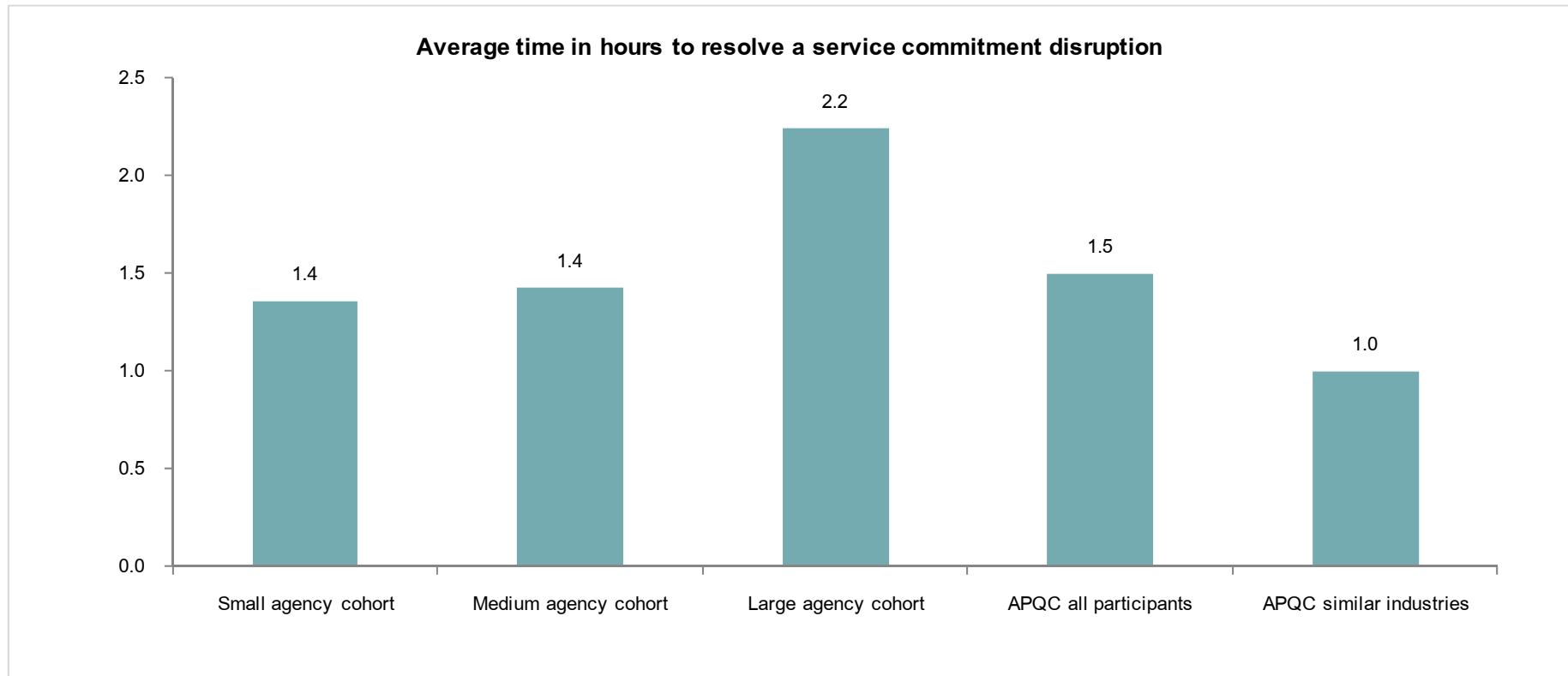


When total number of end users are taken into account the number of end users per ICT FTE for the medium cohort is more comparative to other cohorts. This is primarily due to two agencies in the medium cohort having a large number of external users.

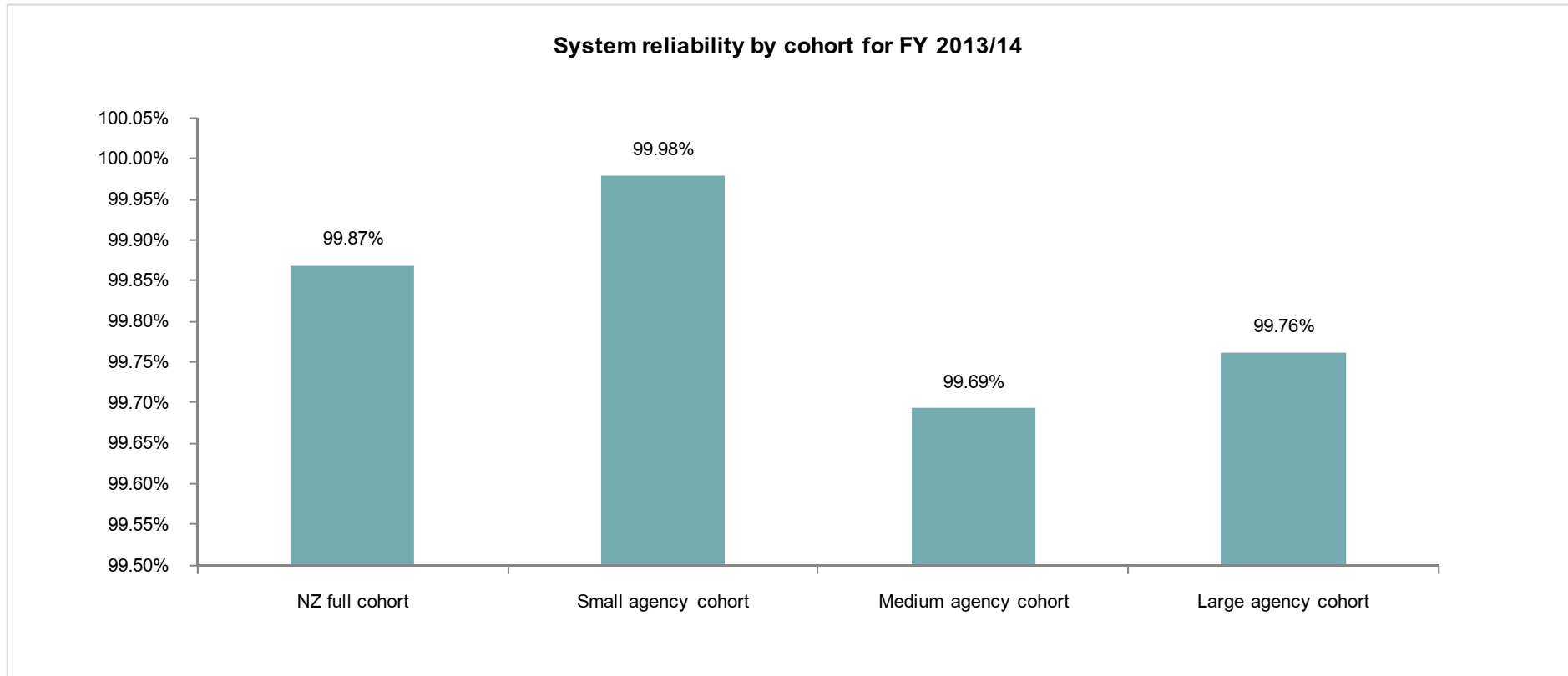
5. EFFECTIVENESS

Effectiveness findings report on the extent to which ICT activities achieve intended or targeted results. They compare New Zealand agency effectiveness with international comparators and examine changes in effectiveness since the previous reporting periods.

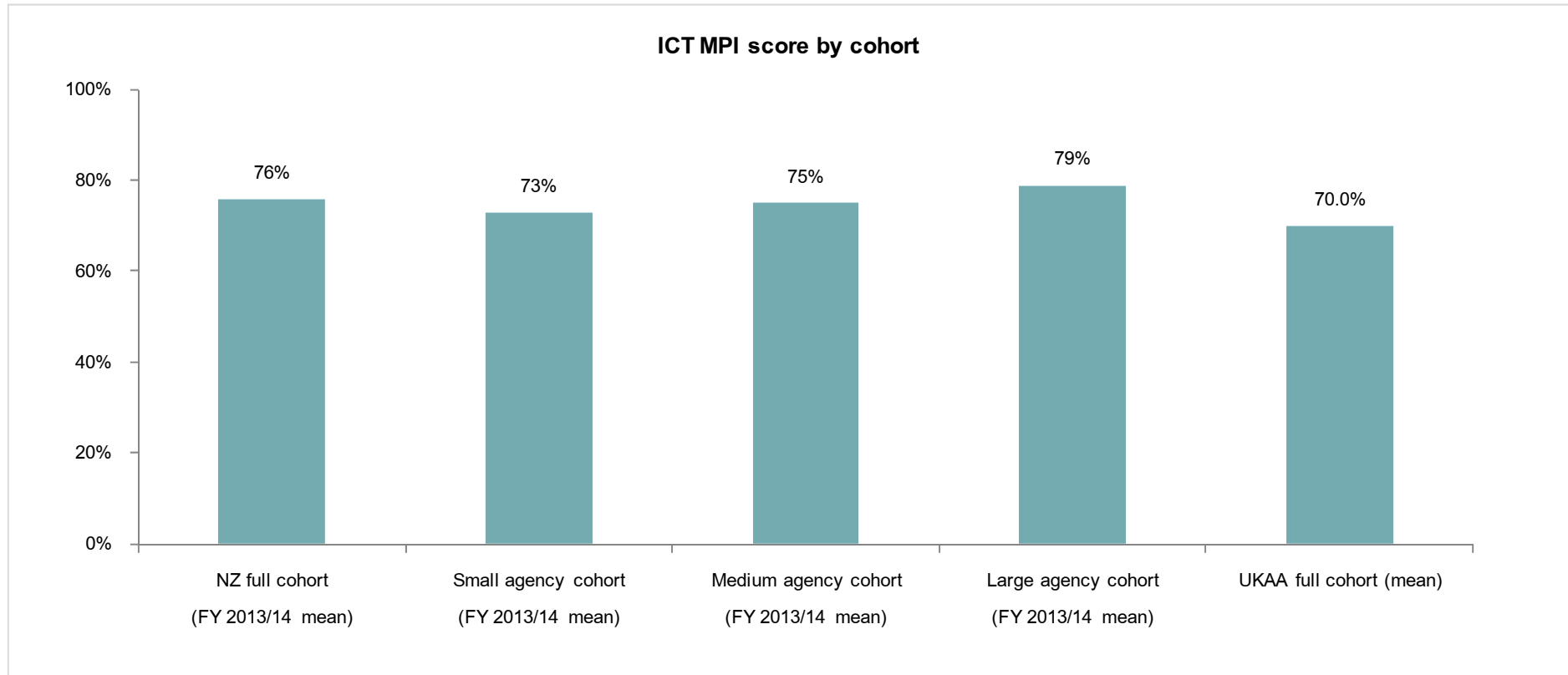
The average time to resolve service disruptions continues to be in line with international comparators, except for large agency cohort



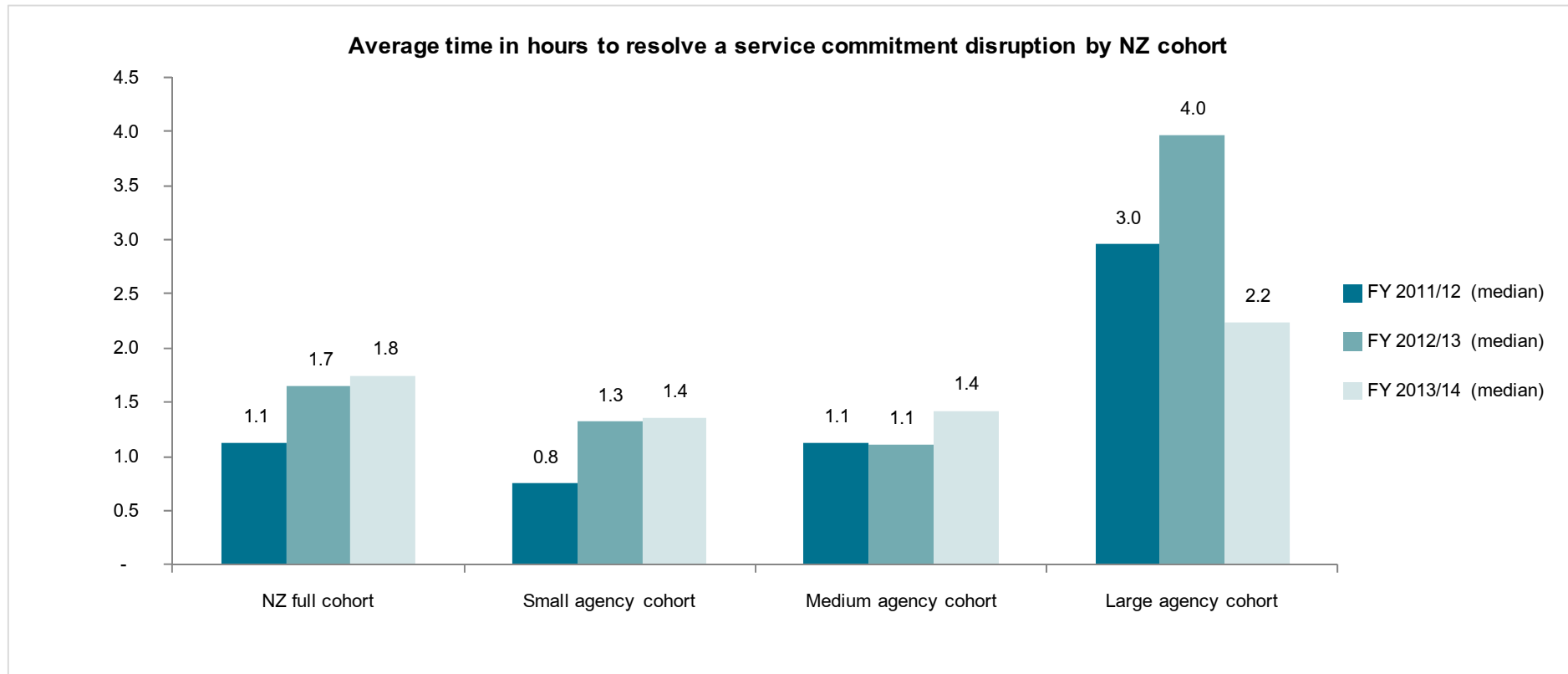
System reliability remains high across all cohorts



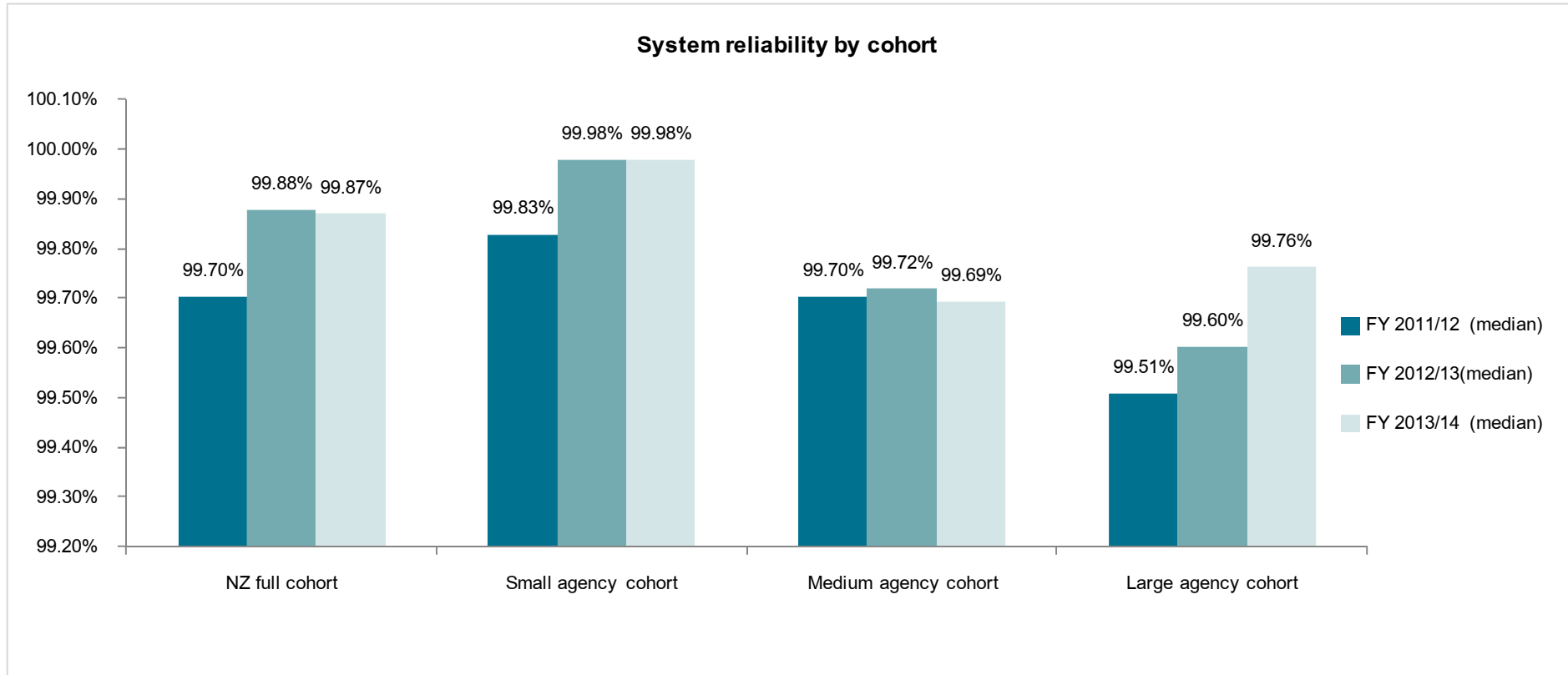
Overall, agencies reported MPI scores continue to be in line with or above the international comparator



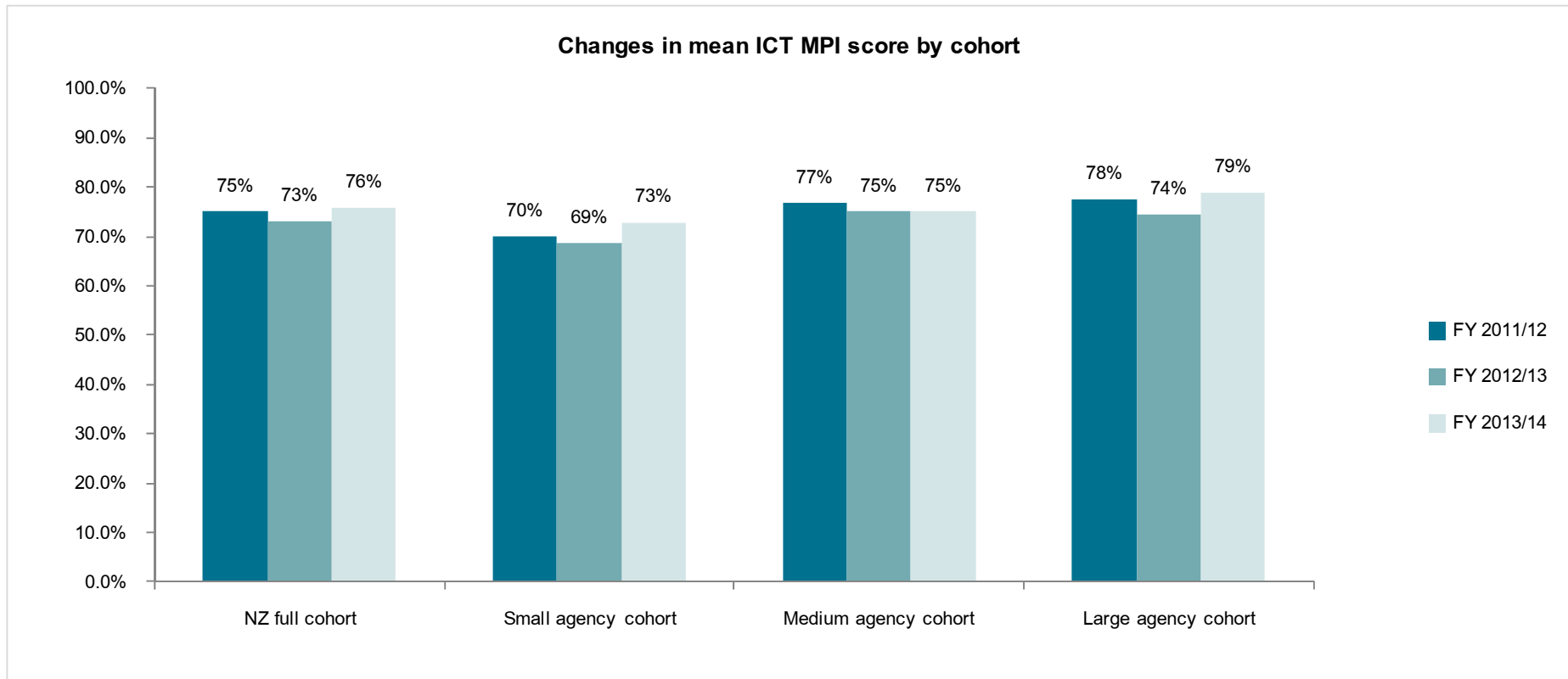
The overall average time to resolve a service disruption has remained fairly stable, although the large cohort shows greater variability



Agencies have maintained high levels of system reliability since FY 2011/12



Overall, reported ICT MPI results have increased slightly between FY 2012/13 and FY 2013/14 from 73% to 76%. Scores have increased in the small and large cohorts whereas the medium cohort score has remained flat



Agencies have expressed a strong preference to move from the MPI towards a Capability Maturity Model (CMM) to provide more meaningful information on which to base decisions.

6. QUALITY OF MANAGEMENT INFORMATION

These findings report on known ICT data quality issues, limitations of the indicator set in providing insight into ICT service performance, and opportunities for improvement. The introduction section in the summary BASS report includes common quality of management information findings across all functions that are not repeated in this chapter.

Benchmarking of Administrative and Support Services is guided by five principles:

- 1. Metrics are selected with practitioners across government.** Selection is based on three criteria:
 - Metrics reflect performance – they provide meaningful management information that can support business decisions.
 - Results can be compared – they are comparable across New Zealand agencies and comparator groups.
 - Data is accessible within agencies – the measurement costs are reasonable.
- 2. Methods and results are transparent.** The Treasury makes its metric calculation methods and underlying definitions publicly available along with the results of individual measurement agencies to promote transparency, facilitate discussion and debate, and to support collaboration with other jurisdictions undertaking similar exercises.
- 3. Performance results should be understood within the operational context of each agency.** While agencies have common features, each has their own unique functions and cost drivers that need to be considered when interpreting results. For example, results can be expected to differ depending on whether an agency is asset intensive, has large service delivery activities, has a wide range of activities (e.g., multiple votes) or is supporting significant non-departmental activity. Accordingly, benchmarking results are only a guide to relative performance, and conclusions regarding efficiency and effectiveness should be made in light of each agency's operational context, with comparators chosen according to which function within a particular agency is being reviewed.
- 4. Results should be used constructively, not punitively.** In leading practice organisations, performance information supports discussion, decision making, and learning.
- 5. The quality of management information should improve each year.** Metric sets and data collection methods are refined and improved year-to-year based on lessons learned.

Quality of Management Information (1 of 3)

The quality of the data underlying the metrics is generally of a high standard, and information can be meaningfully compared.

Management information quality will continue to improve with changes to metrics, especially for the management information that provides a government-wide view of ICT performance. There are continued opportunities to improve the management information in future reports below, including but not limited to the following:

- **Alignment of data and metrics to support the Government ICT Strategy and Action Plan to 2017**
- **Capability Maturity Model (CMM):** Moving from the MPI to a CMM approach. These may draw from international standards such as ITIL or COBIT for operational capability, and Val IT for measuring the value of ICT to the business.
- **Volumetric data:** Dependent on agency availability, the GCIO working with Treasury will pilot the collection of volumetric data with a small group of agencies.
- **Personnel costs that have been capitalised:** undertake analysis on the trend of personnel costs that have been capitalised, and the impacts on personnel, outsourcing and capex.

Quality of Management Information (2 of 3)

Measurement practice across agencies and international comparator groups. Agencies use common definitions and data collection practices, and these definitions and practices are aligned with those used by three main sources of comparator data: UKAA, APQC, and The Hackett Group. Nevertheless, results will be influenced by judgements necessary in applying these definitions and the management information systems used by agencies to support data collection.

Caveat to previous year's data: At the submission of data each year for the current reporting period, agencies have the opportunity to make reflective adjustments to the previous year's submitted data. As a result there may be a small difference between prior year figures in this report when compared with past years published figures.

Caveat to time series: The Ministry of Business, Innovation and Employment (MBIE) merger, effective from 1 July 2012, has impacted on the comparative metrics across cohorts. The significant lower cost for the large cohort, and higher costs for the small and medium cohorts in FY 2011/12 related to the merger of the Department of Building and Housing (DBH), Department of Labour (DOL), Ministry of Economic Development (MED) and the Ministry of Science and Innovation (MSI) to form the Ministry of Business and Innovation and Employment (MBIE). DBH, DOL, and MED were previously in the small, medium and medium cohorts respectively. MSI previously did not participate in BASS. DBH, DOL and MED spent \$4.1m, \$30.5m and \$34.2m respectively on ICT in FY 2011/12. If these costs(\$68.8m) were reflected in the large cohort costs for FY2011/12 the relative cost would be \$645.8m.

Quality of Management Information (3 of 3)

Where there are concerns with data quality, the underlying problems are based in the maturity of measurement methods and are common in the private and public sectors around the world. For example, agencies are asked to only include function activity costs for staff that spend more than 20 percent of their time on the relevant function. The implication of this data collection practice is that, if agencies have highly devolved processes for a specific function, the true cost of the activity is likely to be understated as the data excludes line managers' time and effort. Two functions that are particularly difficult to measure due to the relative immaturity of measurement methods are:

- **Procurement: The highly devolved nature of the Procurement function makes it hard to measure expenditure consistently because measurement only captures costs where procurement activities make up more than 20 percent of a person's time.** While these data collection practices are consistent with international practice, they can lead to an understatement of the cost of Procurement, hampering useful efficiency measurement.
- **CES: Organisations around the world undertake a wide range of activities within this function without standard definitions, and it is not common for them to benchmark these services.** When they do benchmark, the quality of management information is impaired by data inconsistency and a limited pool of reliable comparator data in New Zealand or internationally.

Management Practice Indicator (MPI) and Capability Maturity Model (CMM) scores are self reported. It should be noted that MPI and CMM scores are self reported by agencies, and the responses have not been moderated across agencies for consistency. In these instances, the focus should be on the reported score for an agency and how this has changed over time, rather than comparison of scores across agencies.

More information

A glossary of terms, definitions and source material can be accessed via the main report, available on the Treasury website: <http://www.treasury.govt.nz/statesector/performance/bass/benchmarking/2013-14>

A full set of BASS data can also be accessed via the Treasury website:
<http://www.treasury.govt.nz/statesector/performance/bass/benchmarking/2013-14>

Questions about the findings in this report should be directed to performance.info@treasury.govt.nz