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Te Tāhuhu o te Mātauranga Aotearoa

**Evaluation of the Sustainability of ECE Services
During the Implementation of
*Pathways to the Future — Ngā Huarahi Arataki***

Final Report

Report to the Ministry of Education

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Executive summary

A ten-year strategic plan for early childhood education (ECE): *Pathways to the Future – Ngā Huarahi Arataki*, was launched in September 2002. A new funding system for ECE was introduced in April 2005, together with substantial increases in Government funding for ECE services. Health Outcomes International (HOI) was engaged by the Ministry of Education to evaluate the sustainability of ECE services in the context of these changes. This complements the evaluation of outcomes with regard to quality, participation and collaborative relationships undertaken by the New Zealand Council for Educational Research (NZCER) and Te Kōhanga Reo National Trust (TKRNT) for Stage 1 of the evaluation of the Strategic Plan, which involved case studies in a sample of 46 ECE services across eight localities.

In the context of this evaluation, the term ‘sustainability’ refers primarily to the financial sustainability of ECE services – that is, the ability of services to cover their costs on an ongoing basis. However, it needs to be acknowledged that ECE services require more than positive cashflow to remain sustainable. Ultimately, ECE services are only sustainable to the extent that there is demand for the services offered. Thus, sustainability depends on providing a service that families and whānau want (and can afford) to utilise. Sustainability also depends on supply factors such as teacher supply and a cost-effective regulatory framework. These considerations inextricably tie the issue of sustainability to issues of participation, quality and collaborative relationships.

This evaluation of sustainability assesses:

- Changes in patterns of expenditure and revenues of ECE services that may be associated with the implementation of the Strategic Plan;
- Whether services have become more sustainable since the introduction of the Strategic Plan and the new funding system;
- Whether the new funding system is having the intended effects of avoiding cost increases to parents and providing incentives for teacher-led services to meet teacher registration targets; and
- The impact of sustainability on quality and participation outcomes.

A multi-method evaluation was conducted, comprising three key data sources: consultations with sector stakeholders from umbrella groups and national organisations; analysis of existing data sets maintained by the Ministry of Education and Statistics New Zealand; and collection of financial data from locality-based case studies using a survey administered with the assistance of NZCER and TRKNT field researchers, with the financial data being analysed in conjunction with NZCER/TKRNT outcome indicator data.

Changes in Expenditures and Revenues

The implementation of the Strategic Plan has brought cost increases for teacher-led ECE services as anticipated. The most marked cost increases are associated with the implementation of targets for registered qualified teachers in teacher-led services. National data and stakeholder feedback concur that the new funding system is largely

meeting these increased teacher salary costs. The teacher shortage is said to be impacting on teacher salary costs in some regions. Although this was not evidenced in the 2006 operating cost survey, further monitoring is warranted.

Some of the costs associated with implementing the Strategic Plan (as well as other factors) are not financial, but nevertheless represent a risk to the quality and sustainability of ECE. Additional administrative work is often being absorbed by existing staff and/or volunteers in both teacher-led and parent-led services, causing stress and fatigue. Insufficient time and conditions to support effective teaching and learning processes, and high volunteer workloads have also been identified by NZCER and TKRNT as impediments to improving quality.

Changes in Sustainability

Sustainability has been assessed against a range of indicators. These indicators suggest that the ECE sector as a whole is sustainable, and perhaps becoming gradually more so. Education and Care services (ECSs) have shown the greatest overall changes in capacity, participation, quality (employment of registered teachers), revenues, and costs. Meanwhile, indicators of sustainability for ECSs have remained relatively stable or improved. This analysis has relied heavily on data from community-based ECSs due to the relative unavailability of private sector data.

Key findings are:

- The overall capacity of the sector, in terms of numbers of licensed services and child-hours, has been steadily increasing since the early 1990s, suggesting that service operators project a financially sustainable outlook for their services. The strongest growth has been in the capacity of all-day ECSs. Home-based ECE has also been trending upwards. Kindergarten capacity has remained static since 2002, and the capacity of playcentre and kōhanga reo has decreased. These trends echo the trends in participation over the same time periods.
- Overall the number of service closures attributed in Ministry data to financial reasons or forced closure/declining roll has decreased in recent years. Approximately 14-15 services per 1,000 closed for these reasons each year during 2000-2002, while the rate during 2004-2006 was in the range of 3-6 per 1,000. The small numbers involved provide a strong indication of the sustainability of ECE services, and the reduction in financial/roll-related service closures since the implementation of the Strategic Plan is a positive indication of improving sustainability in the sector but must be interpreted with caution due to the relatively short time series and possible coding anomalies.
- Ministry analysis has found that services that closed had a lower than average occupancy rate (the ratio of utilised child-hours to maximum available child-hours) compared to other similar service types. Average occupancy rates have remained relatively stable for each service type over the past six years. However, Ministry analysis found that the proportion of licensed ECE services with low occupancy rates has declined (improved) every year since 2001 and was around 8 percent of services in 2005.
- Operating surplus/deficit (the net difference between an ECE service's revenues and expenditures for a year) provides a relative indication of the capacity of a service to sustain itself over the longer term. Analysis of this indicator shows that the year-end financial positions of individual services can fluctuate from year to year, but the proportion of services running a deficit each year is relatively stable for the population of community-based ECSs (the only segment for which reliable data was available).

- The working capital ratio (the ratio of a service's current assets to current liabilities) provides an indicator of the financial reserves held by services, which provide a buffer for unanticipated expenses or a temporary and unexpected drop in revenues. A ratio of less than 1.0 means that the service has more current liabilities than current assets and is therefore unable to meet its short-term commitments. The proportion of community-based ECSs with working capital ratio of less than 1.0 has not changed markedly since the introduction of the Strategic Plan, but does show a slight reduction (improvement) since 2002. The majority of these ECSs are in a relatively strong working capital position, with 60 percent of services having assets equal to or greater than 1.5 times liabilities.

These findings accord with the Ministry's provisional ECE Monitoring Framework finding that the majority of ECE services in NZ are operating at a sustainable level, and with the NZCER/TKRNT evaluation which found overall sustainability was mostly adequate or better in both 2004 and 2006. Sector stakeholders generally considered that the Strategic Plan and the new funding system had not had a noticeable effect on the sustainability of ECE services.

The ongoing decline in the utilisation of parent/whānau-led services does not appear to have been impacted by the implementation of the Strategic Plan. Playcentre stakeholders believed the Strategic Plan should be doing more to promote parent/whānau led ECE as a high quality option.

There is a gradual trend toward clustering of services within community-based umbrella organisations and corporate entities. Clustering of services can improve sustainability by realising economies of scale and providing access to managerial and other expertise that stand-alone services would struggle to afford. It was also suggested that some of these benefits could be realised through less formal networking of services – for example, clustering new services with more established services with experienced managers.

Effects of the Funding System

The available data did not provide direct evidence of whether the increased funding through the new ECE funding system is covering cost increases brought about by the Strategic Plan. Analysis of Statistics New Zealand data for the two years following the introduction of the new funding system shows that on average, growth in ECS and home-based prices has been less than growth in the general cost of living and in average hourly earnings. Meanwhile, participation in ECE has continued to increase. Both of these findings support the proposition that services have not passed cost increases on to parents.

Stakeholder feedback and quantitative evidence are in agreement that incentives to meet teacher registration targets appear to be working. Based on these findings (including increased employment of registered teachers, continued increases in participation, stable or improving sustainability, and low average growth in fees), it can be cautiously concluded that the funding system is having the intended effects overall.

A shortage of teachers may be responsible for the increased teacher turnover following implementation of the new funding system, and has also been identified by NZCER and TKRNT as an impediment to improving quality. The teacher shortage is creating opportunities for rapid progression for new teachers. Stakeholders identified potential risks associated with having relatively inexperienced teachers in leadership positions, and suggested that these transitional risks may be managed through appropriate PD, mentoring, advice and support.

Impact of Sustainability on Quality and Participation Outcomes

Sustainability of ECE services is an important precondition to participation and quality. The majority of additional ECE funding during the period of this evaluation was associated with quality (registered teachers) and the available evidence suggests this funding has been successful in increasing the proportion of registered qualified teachers while avoiding negative impacts on participation. Free ECE funding (from 1 July 2007) represents a significant investment in participation, the impacts of which will only be known after further monitoring and evaluation.

The available data did not permit the evaluation to determine *how sustainable* an ECE service has to be, in order for financial factors not to be an impediment to achieving the goals of the Strategic Plan. However, findings across the sustainability indicators suggest that somewhere in the order of 5-10 percent of ECE services may not be comfortably sustainable.

If common characteristics of less sustainable services can be identified, strategies can be developed to improve their sustainability. Risk ratios could be calculated for a range of factors (such as service type, ownership structure, rurality, socio-economic status, number of years ECE service has been in operation, percentage of registered teachers, teacher turnover, head teacher years of experience, financial expertise of manager/treasurer, and other factors). This would require further analysis against existing data sets, supplemented by primary data collection.

Feedback from stakeholders and experience in the collection of financial information from ECE services suggest that some managers and treasurers struggle with the financial management aspects of operating an ECE service, as many have received no formal training in this area. In order to be fully effective, the Government's investment in ECE must be effectively managed by the people in charge of ECE services. It would be in the interests of the Ministry and sector leaders to work together to develop a package of PD, advice and support on financial management in ECE.

1 Introduction

A ten-year strategic plan for early childhood education: *Pathways to the Future – Ngā Huarahi Arataki*, was launched in September 2002. The Ministry of Education engaged the New Zealand Council for Educational Research (NZCER) and Te Kōhanga Reo National Trust (TKRNT) to conduct a locality-based evaluation in eight localities. The evaluation focused on the three goals of participation, quality and collaborative relationships. The Ministry engaged Health Outcomes International Pty Ltd (HOI) to work collaboratively with NZCER and TKRNT to inform and complement the research by evaluating the sustainability of early childhood education (ECE) services. This report is the Final Report from the evaluation of sustainability.

Pathways to the Future: Ngā Huarahi Arataki

Pathways to the Future – Ngā Huarahi Arataki (“the Strategic Plan”) provides the framework and direction for ECE policy development. It has three main goals:

- To improve participation in quality ECE services;
- To improve quality of ECE services; and
- To promote collaborative relationships.

There is a specific focus on communities of low participation.

The Strategic Plan is underpinned by three supporting strategies: the funding framework and funding system, a regulatory review, and the evaluation strategy (Ministry of Education, 2005).

The new funding system for ECE was introduced in April 2005. Under the new system, funding rates are linked to services’ cost drivers, creating incentives for and recognising the costs of improving quality. For example, rates of funding are linked to targets for the percentage of registered and qualified ECE teachers employed at the ECE service. The implementation of the funding system is described in section 2.

A review of the regulatory system commenced in 2003 to ensure that the system is consistent with and supports the Strategic Plan with regard to quality and responsiveness to families’ diverse and changing needs. Some objectives of the Plan also required specific regulatory changes, such as improving adult:child ratios and teacher registration requirements. These changes were legislated for with the passage of the Education Amendment Act 2006.

The evaluation of the Plan is taking place over the ten-year duration of its implementation. Stage 1 of the evaluation (including the current sustainability evaluation) took place during 2004-2007. Stage 1 will feed back into ongoing policy development and implementation, contributing to the continuous improvement of the Plan as its implementation progresses.

The Ministry engaged NZCER and TKRNT to conduct locality-based research to investigate and analyse the actions in the Plan and how the actions contribute to outcomes (focusing on the three goals of participation, quality and collaborative relationships) in the eight localities in the sample. The Ministry engaged HOI to evaluate the sustainability of ECE services during the implementation of the Plan. This complements the work of NZCER and TKRNT, and HOI has worked collaboratively with these groups throughout the evaluation period.

Sustainability

In the context of this evaluation, the term sustainability refers primarily to the financial sustainability of ECE services – that is, the ability of services to cover their costs on an ongoing basis. However, it needs to be acknowledged that ECE services require more than positive cashflow to remain sustainable. Ultimately, ECE services are only sustainable to the extent that there is demand for the services offered. Thus, sustainability depends on providing a service that families and whānau *want* (and can afford) to utilise. Sustainability also depends on supply factors such as teacher supply and a cost-effective regulatory framework. These considerations inextricably tie the issue of sustainability to issues of participation, quality and collaborative relationships.

The Plan recognises that increased participation in ECE relies, *inter alia*, on having ECE services that are sustainable – that is, “if parents, families and whānau are to keep their children attending ECE services, those services need to be sustainable” (Ministry of Education, 2002a). This dependence of participation on sustainability is also articulated in the logic model.

Equally, however, the converse is true: ECE services will only be sustainable if parents, families and whānau keep their children attending those services. The costs and revenues of ECE services are closely related to participation. For example, four-fifths or more of most services’ revenue streams (from both Government and parents) are related to the number of children who utilise the service and their hours of attendance. (Health Outcomes International. 2003) Thus, there is a feedback loop between participation and sustainability which could either reinforce any growth or compound any decline in the sustainability of ECE. This consideration underscores the importance of evaluating the impacts of the Plan on sustainability.

As well, there are relationships between quality, collaborative relationships and sustainability. Stability is recognised as an important feature of quality ECE as children in stable arrangements are more likely to demonstrate positive educational outcomes (Kershaw, Forer, and Goelman, 2004). ECE services that are financially sustainable are also in a better position to improve quality and develop collaborative relationships than services in financially fragile circumstances. Thus, sustainability is a precondition to all three goals of the Strategic Plan.

Improving quality and collaborative relationships entails additional costs (e.g. increased teacher costs due to employment of registered and qualified teachers, increased teacher costs per child-hour due to reduced group sizes; time and resources invested in developing and implementing self-review processes; and involving parents and whānau in teaching, learning and assessment). In recognition of this, the new funding system included increased Government funding for ECE services to reflect specific cost increases from the Plan. For example, the Plan (p9) states:

Requiring ECE services to employ registered teachers increases the costs to the services. The Government recognises that for ECE services to pass on too much of this cost to service users would

decrease participation. The Government will therefore fund services so that increased teacher quality does not come at the cost of decreased participation.

The Strategic Plan and logic model also identify the following key actions to improve sustainability of ECE services:

- The provision of Equity Funding to promote access to quality community-based ECE services through acknowledging additional costs faced by ECE services in some communities. In particular, this relates to ECE services that are in low socio-economic and rural communities, cater for children with special needs or who have English as a second language, or provide an immersion service in languages other than English;
- Introduction of funding and regulations that better support quality ECE services to meet the needs of children, parents, families and whānau;
- Working with ECE sector umbrella groups and organisations to ensure that advice and support for governance, management and professional leadership are available to all ECE services; and
- Providing leadership development programmes to strengthen leadership in ECE services.

Evaluation Objectives

The objectives for the evaluation of the sustainability of ECE services during the implementation of the Plan were:

- Establish baseline measures in 2004 related to sustainability;
- Describe the implementation of the funding system and the impacts of this, together with the Strategic Plan, on sustainability;
- Determine whether there is any change from baseline measures in 2006;
- Analyse the evidence from each locality to understand, with respect to the logic model and the stated goals (of the Strategic Plan):
 - How working toward and achieving the goals of participation, quality and collaborative relationships, together with the receipt of increased funding to support the Strategic Plan, are affecting the sustainability of ECE services;
 - How the sustainability of ECE services is affecting their capacity to improve participation, quality and collaborative relationships;
- Analyse similarities and differences in relation to impacts on sustainability in different contexts; and
- Provide evidence of any unintended outcomes in relation to sustainability.

The reference to baseline (2004) and follow-up (2006) measures in these objectives reflected an initial expectation that the principal source of data for the evaluation would be the locality-based case studies involved in the evaluative work being carried out by NZCER and TKRNT. However, the study design evolved during the course of the evaluation as new national data sources became available which were more suitable to evaluating the sustainability of the ECE sector. As a result, the evaluation has been broadened from a pre-post analysis of case study data to include trend analysis of national data.

Evaluation Questions

The following evaluation questions were developed for the evaluation of the sustainability of ECE services during the implementation of the Plan:

- What are the changes in patterns of expenditure (due to the implementation of the Strategic Plan)?
 - By cost component/driver: What are the additional costs related to the implementation of the Strategic Plan, and why do they occur? What are the main extra activities/investments being undertaken?
 - By source of revenue: To what extent does additional Government funding contribute to meeting the additional costs? Has the proportion of Government to total funding changed? Has the cost per family changed?
- To what extent is ECE service sustainability changing/improving as a result of changes in revenues and costs (due to the implementation of the Strategic Plan), as indicated by:
 - Surplus/deficit: How well do annual revenues cover annual costs?
 - Cash reserves: Do cash reserves increase or decrease with the implementation of the Strategic Plan and the funding system?
 - Demand/Participation (as indicated by changes in occupancy, utilised child-hours)
 - Supply (as indicated by entries/exits/changes in ownership of services, available child-hours)
- Is the funding system having the intended effects?
 - Has the additional funding covered the costs of implementing the Strategic Plan (or have parent fees and/or voluntarism had to increase?)
 - Has the additional funding provided incentives to meet the teacher registration targets?
- How are these changes contributing to improved quality of ECE services, increased participation in quality ECE services, and promoting collaborative relationships?
 - How have changes in financial sustainability impacted on capacity to improve quality, participation, and collaborative relationships?
 - To what extent have the Government's support interventions under the Plan been accessible? To what extent have they been taken up? What effect have they had on the sustainability of the service and/or the capacity of the service to improve participation, quality and collaborative relationships?

2 The Government's Investments in ECE to Support the Strategic Plan

To support the implementation of the Strategic Plan, the Government has significantly increased its investment in ECE through a range of general and targeted funding streams in the last three Budgets, including the introduction of a new funding system for ECE.

This section provides a summary of the additional spending associated with the Strategic Plan. The following information has been sourced from publicly available Ministry documentation including the 2004 *Guide to the New Early Childhood Education Funding System*; (Ministry of Education, 2004) Budget 2004, 2005 and 2006 press releases and fact sheets (Beehive, 2007) and Ministry of Education Circulars and fact sheets (Ministry of Education, 2007b).

The New ECE Funding System

The new ECE funding system came into operation from 1 April 2005. It primarily affects the ECE Funding Subsidy for chartered ECE services ("Bulk Funding") and funding for licence-exempt playgroups.¹

The new funding system provides for increases in funding to reflect cost increases from the Strategic Plan, including additional costs related to teacher qualification and registration requirements as well as future changes to adult:child ratios and meeting regulatory standards. It is also designed to reflect the diversity of ECE services and to respond to changes within particular service types or age groups.

The increased funding is intended to ensure that services do not need to pass on to parents the increased cost of quality improvements under the Strategic Plan (such as more qualified teachers), at least within the 30 hour weekly cap on ECE funding. This is to avoid any adverse impact on participation in quality ECE or in the labour market.

With the implementation of the new funding system came stronger accountability and reporting requirements in order to ensure the integrity of additional funding provided for meeting teacher registration targets and eligibility and attendance criteria for Free ECE.

Cost Driver Approach

The new funding system provides a funding subsidy that is aligned to the cost drivers of ECE services and reflects differences in average costs of service provision for full-day and sessional services, different service types,

¹ The ECE funding subsidy is paid to chartered ECE services and contributes to operating costs by paying for part of each hour each child spends in ECE, up to a maximum of six hours per day and 30 hours per week. Services receive their subsidy three times a year as a lump sum. Limited funding is available for licence-exempt playgroups that meet basic governance, safety, programme, supervision, and record-keeping requirements.

services with different proportions of registered qualified teachers, and services with different regulated adult:child ratios.

There are two components to most funding rates: a basic component that reflects standard operating costs for all ECE services (e.g. administration, professional services, utilities and educational resources), and a variable component that reflects the cost drivers that differ between ECE service types (e.g. staff and operating costs). Licence-exempt services have only a basic component in their funding rates.

The approach does not take account of all service costs. Property costs can vary widely and are recognised through an average cost for each service type which reflects maintenance but not establishment costs. The funding rates do not vary regionally as the difference in cost within regions is greater than the difference in cost between regions (Ministry of Education, 2006b).

Funding to Meet Teacher Registration Targets

One of the key objectives in the Strategic Plan is increasing the number of registered qualified teachers in teacher-led services, so that the percentage of teachers who are registered and qualified would reach a minimum of 50 percent by December 2007, 80 percent by 2010 and 100 percent by 2012. The rationale for this objective is derived from research-based evidence that one of the best ways of achieving quality outcomes in ECE is through highly qualified teaching staff (Ministry of Education, 2002b, cited in Mitchell and Hodgen, 2008). The funding system is designed to support this requirement through a series of funding bands providing higher rates of funding for teacher-led centre-based services with a higher proportion of registered qualified teachers.

Free ECE

From 1 July 2007, 20 hours of Free ECE will be available to three and four-year-olds who attend teacher-led ECE services. The funding of 20 hours is consistent with international research showing that intensive participation of 15-25 hours each week is beneficial to children. Free ECE is expected to increase participation in ECE.

Free ECE will be funded through higher funding rates intended to cover the full average cost of ECE provision for each service type. Participating services will receive the Free ECE funding rate in place of the standard funding rate for eligible children based on their hours of attendance for the first six hours per day and 20 hours per week. Services must not charge fees for the hours that they provide Free ECE.

Free ECE rates were calculated based on 100 percent of the average cost of ECE provision, as reported by services in the operating cost surveys. The funding therefore may not cover the full cost of service provision for services that have higher than average costs or for services that exceed regulated standards such as adult:child ratios. Services are able to introduce optional charges for aspects of the service that are not required by regulation or which parents could choose to provide for themselves (e.g. food). Participation by services in Free ECE is voluntary, and the Government cannot guarantee access to Free ECE for families.

Sustainable Funding that Reflects Changes in Costs

To ensure funding does not fall permanently behind cost increases from the Strategic Plan, a commitment has been made to regularly review the main costs of ECE provision. The review will also consider whether funding should increase to reflect increases in other costs.

The Ministry collected information from ECE services on changes in the key cost drivers for service provision, through operational cost surveys conducted in 2005 and 2006. The results from these surveys have been used in setting and reviewing ECE Funding Subsidy rates and Free ECE rates. It is anticipated that further operational cost surveys will be conducted in the future as part of the regular review of cost drivers.

Increased funding and a new rates structure for teacher-led services were introduced with the new funding system from 1 April 2005. Rates were increased at 1 July 2005 and 1 July 2006.

Targeted Funding Streams Supporting the Strategic Plan

In addition to the ECE funding subsidy, there are several funding streams aimed at improving participation, quality and/or sustainability for groups of service users or services that would otherwise be disadvantaged. These targeted funding streams are summarised below.

Childcare Subsidy

The Childcare Subsidy, funded through the Ministry of Social Development, provides income-tested assistance to help families pay for ECE. The subsidy is paid directly to ECE providers to reduce the share of costs paid by eligible families. Up to 50 hours per week of subsidy is available for families in work, education or training, or who meet the criteria because of a parent's or child's sickness or disability. Up to nine hours per week subsidy is available for all other families who meet the income criteria.

The 2004 Budget provided increased Childcare Subsidy rates and widened eligibility criteria for working families under the Working for Families package. From 1 July 2007, for parents accessing Free ECE, Childcare Subsidy payments will be reduced for each hour of Free ECE received to avoid double-payment for these services.

Equity Funding

Equity funding was introduced for ECE services in the 2001 Budget. It is available to community-based chartered ECE services and is intended to "reduce educational disparities and remove barriers to participation for some children." Criteria for equity funding include the socio-economic status of the area; numbers of children attending the service who have special education needs or come from non-English speaking backgrounds; the geographic isolation of the service; and services working in languages or cultures other than English (including sign language). The funding pool was \$8.5 million in the 2002/2003 year, rising to \$11 million in the 2004/2005 year.

An *Evaluation of Initial Uses and Impact of Equity Funding* was carried out for the Ministry by NZCER in 2006 (Mitchell, Royal Tangaere, Mara and Wylie, 2006a). The evaluation found consistency in the relationships between particular uses of Equity Funding and effects, but could not distinguish between the direct effects of Equity Funding and other external factors such as possible effects related to the Strategic Plan and changes in staff qualification requirements for teacher-led services. The evaluation noted:

"The low socio-economic, isolation, and language and culture other than English components of Equity Funding are generally being used to address some current needs of these services that are not being met through other forms of MOE, Work and Income or other funding, and to raise quality or participation. Since these needs tend to be ongoing, Equity Funding is likely to be required for gains to be sustained"

and further gains made in the future, unless base funding is improved to levels able to address these needs.”

A future review of Equity Funding will be carried out by the Ministry when sufficient time has elapsed to fully assess its impacts.

Special Education

Special education funding is provided for specialist teaching and support and paraprofessional support for children with high and moderate special education needs. Demand for special education is expected to increase due to increased participation in ECE and advances in diagnosis, assessment and surgery. The 2004 Budget provided additional funding for ECE special education to provide extra support for existing high needs children and additional moderate needs children.

Discretionary Grants

The Discretionary Grants Scheme (DGS) is designed to increase participation in ECE services by providing capital assistance to eligible community-based groups so that they can increase the number of available child places, retain places in services that would otherwise have to close or relocate due to circumstances beyond their control, establish new services in areas of low participation and in areas of high projected population growth. The DGS also enables licence-exempt services to become licensed and chartered. The 2005 Budget expanded the Discretionary Grants Scheme to fund the building of approximately 55-65 additional community-based centres in areas of need, in the lead up to the introduction of Free ECE.

Establishment Funding

Establishment funding provides funding for community-based groups establishing licensed ECE centres and existing services that extend their building and subsequently increasing licensed child places. Funding is available for equipment/resources and to help meet staff costs during the initial start-up phase.

Top-Up for Rural Services

In order to maintain access to quality ECE services for parents in isolated rural communities, small chartered ECE services in these isolated areas are eligible for a top-up of additional funding to ensure that they remain viable despite having few children in their area. The top up is an interim measure to support rural ECE pending a review of government support for rural ECE signalled in the Strategic Plan.

Other Government Actions to Support the Strategic Plan

This evaluation focuses primarily on the financial impacts of the Strategic Plan and in particular of the new funding system. However, it is also important to note that the Government has invested in a number of areas beyond the direct funding of ECE services to support the Strategic Plan, including:

Regulatory Review and Education Amendment Act

A Regulatory Review, comprising a major programme of policy development and sector consultation, was conducted during 2004-2006. As a result of this review, Cabinet has agreed to the introduction of a new regulatory system in 2008, which will set clear minimum standards for all ECE services receiving Government funding, and changes to adult:child ratios to be implemented over 2009 and 2010.

From July 2009, age bands will change from </> 2 to </> 2½. Ratios for under 2½ year olds will be 1:5, and ratios for over 2½ year olds will be 1:10 in all-day centres. From July 2010, ratios for over 2½ year olds will be 1:14 in sessional centres. Decisions have not yet been made about group size.

The passage of the Education Amendment Act 2006 enabled the implementation of the new regulatory regime for the ECE sector (as well as other more minor changes and changes unrelated to the Strategic Plan).

Increasing Numbers of Registered Qualified Teachers

A range of initiatives have been implemented to help increase the number of registered qualified teachers, in addition to the incentives provided through the new funding system. These initiatives include:

- Incentive grants to contribute to the costs ECE services face when assisting staff to gain a qualification leading to registration;
- Recognition of Prior Learning schemes to allow those needing to upgrade their qualifications to receive credit for their skills and knowledge;
- Scholarships to attract people into ECE teacher education;
- Relocation grants to assist registered teachers to move to areas where registered teachers are in low supply;
- Providing mentoring and support to students undertaking ECE teacher education;
- Support grant for provisionally registered teachers working toward full teacher registration;
- Exemption to the goal of 80 percent registered teachers by 2010 and 100 percent by 2012, allowing services to count teachers who are studying for a recognised ECE teacher education qualification for up to 10 percent of the 2010 target and up to 30 percent of the 2012 target;
- Distance learning for student teachers and ECE services in remote areas and where registered teachers are in low supply;
- Te Reo learning provision to support the development of kaupapa Māori/ Māori immersion learning options for student teachers;
- Grants for primary qualified teachers to retrain for ECE; and
- Promoting ECE teaching as a career, especially to groups that are under-represented in the ECE teacher workforce, and in Auckland.

Network Management, Advice and Support

Ministry regional offices provide network management and broker advice and support services to address specific market failures including assisting communities to identify and meet ECE needs through the establishment of new

services (e.g. accessing Ministry land or DGS funding), the merging of existing services to improve occupancy and efficiency, and facilitating intervention services to assist services with establishing effective management and governance.

Quality in Parent/Whānau Led Services

Research into quality in parent-led ECE services was published in 2006, (Mitchell, Royal Tangaere, Mara and Wylie, 2006b) as an initial step toward regulations and funding to support quality in ECE services provided by parents/whānau, together with information and support as signalled in the Strategic Plan.

The research analysed factors that contributed to children's learning, and parent learning and support in playgroups, playcentre, kōhanga reo, puna, and Pasifika services. It showed that a range of factors were associated with service quality, including structural factors (i.e. qualified teachers/kaiako, good quality resources); parent participation in training and PD/wananga; experienced adults working in the education programme; access to and use of a wide range of professional advice and support; parent participation in the education programme; and leadership for adult learning (Mitchell and Hodgen, 2008).

Centres of Innovation

The Centres of Innovation programme aims to research innovative approaches to teaching and learning, and trial different ways of improving learning outcomes for children in a small number of ECE services (six initially, with a further ten in the second round), followed by the development of resources (including a DVD and book) for ECE services to share and promote successful outcomes with other providers.

Self-Review Guidelines

Self-Review Guidelines have been developed to support and strengthen the sector's capability to achieve quality learning outcomes for children by supporting the development of quality practices in teaching and learning. The guidelines provide ECE services with an approach to self-review that complements external review undertaken by the Education Review Office (ERO). Self-review will be integrated into existing professional development programmes to build ECE services' capability to implement effective review and to use the self-review process as part of PD programmes.

Assessment for Learning Exemplars

Kei Tua o te Pae/Assessment for Learning: Early Childhood Exemplars is a best practice resource aimed at helping teachers to improve the quality of their teaching. The exemplars consist of a series of books that will help teachers to understand and strengthen children's learning and show how children, parents and whānau can contribute to this assessment and ongoing learning. The implementation of the resource kit includes a programme of in-depth PD for 3,500 services over five years.

ICT Strategy for ECE

The ICT Strategy for ECE is being developed in consultation with the sector and aims to provide a framework to support sector developments in ECE. This has been supported by additional funding in the 2005 Budget for cluster/PD support, and through a literature review on the use of ICT in ECE in 2006.

3 Methodology

A multi-method evaluation was conducted, comprising three streams of data collection:

- Consultations with sector stakeholders from umbrella groups and national organisations;
- Existing data sets maintained by the Ministry of Education and Statistics New Zealand; and
- Financial and related data collected from locality-based case studies using a survey administered with the assistance of NZCER and TKRNT field researchers.

Integrative analysis of the data from these three sources was carried out to triangulate findings and identify themes in relation to each evaluation question. Further detail on the data sources and the analyses carried out is provided below.

Stakeholder Consultations

Umbrella groups and national organisations provided qualitative feedback on the impacts of the Strategic Plan, drawing upon the experiences of their broad membership bases and the advice/support and advocacy roles they fulfil on behalf of their members/centres.

Consultations were carried out during March-June 2005 (baseline) and December 2006-March 2007 (follow up). The consultations sought feedback from a range of stakeholders regarding changes in the financial sustainability of ECE services associated with the implementation of the Strategic Plan. The qualitative information gathered through this process subsequently informed the quantitative analyses by identifying specific issues to investigate through analysis of the available data.

Interviews were conducted with the following organisations, which were identified in consultation with the Ministry of Education to ensure the consultations captured an appropriate cross section of perspectives:

- Kindergarten Associations: Auckland Kindergarten Association, Central North Island Kindergarten Association, Kids First (Canterbury); and Northland Kindergarten Association (baseline only).
- Playcentre Associations: New Zealand Playcentre Federation, Auckland Playcentre Association, Canterbury Playcentre Association; Northland Playcentre Association.
- Kōhanga Reo: Te Kōhanga Reo National Trust (TKRNT).
- Home Based Education and Care: New Zealand Family Day Care Association (NZFDCA) and Barnardos (national and office and coordinators).
- Education and Care Services (ECSs): Early Childhood Council (ECC); New Zealand Childcare Association (NZCA); Pacific Islands Early Childhood Association (PIECCA). In addition, three of the Kindergarten Associations interviewed also operate ECSs and provided feedback from this perspective, as did Barnardos.

- Ministry of Education: Education Management Policy Division; Advice and Support Facilitators.

The interviews were supplemented by a review of relevant information and commentary published on these organisations' websites.

Analysis of Secondary Data

At the time the initial study design was developed, the Ministry did not hold longitudinal financial data on ECE services' expenditures. Consequently, the initial evaluation design focused on the collection of baseline and follow up financial data from the locality-based case studies to explore shifts in patterns of expenditure and indicators of sustainability. The limitations of this approach (including the small sample size for this type of analysis and potential difficulties in obtaining accurate financial data from services) were recognised, and were one of the considerations that led to the inclusion of national stakeholder interviews within the study design.

During the three year period of the evaluation, new sources of data became available which provided opportunities to conduct a more comprehensive and nationally representative analysis of financial data. In particular, the Ministry conducted operating cost surveys in 2005 and 2006 to inform the setting and review of funding rates under the new funding system. These surveys collected cost data which was previously unavailable at a national level and which was of value in the evaluation. Both the raw data and the Ministry's analyses were reviewed for the evaluation.

Another emergent source of data was a survey of ECE prices, which Statistics New Zealand conducts for the Consumer Price Index (CPI). The quarterly data set from this survey has been used in the evaluation as an indicator of changes in the average level of prices paid by families for ECE.

In consultation with the Ministry of Education, a range of further secondary data sources were identified that would support the analysis of additional indicators and the exploration of issues identified by umbrella groups during the baseline round of consultations. These included a range of data sources currently being used in the ECE Strategic Plan Monitoring Framework² (as well as draft findings from analyses conducted by the Ministry within the Monitoring Framework), including capacity and enrolments data collected from RS7 and RS61 returns, cost data reported to the Ministry by community-based ECE services, licensing data, and data on numbers of registered teachers. The relation between data sources and evaluation questions is summarised in Table 1 below. The data sources and their strengths, limitations and interpretation issues are discussed alongside findings in section 4.

Locality-Based Case Studies

Case studies were undertaken by NZCER and TKRNT in a sample of 46 ECE services across eight localities to provide a micro-level understanding of the initiatives. NZCER conducted the case studies in education and care centres, kindergartens, Pasifika centres, playcentres, home-based services and playgroups. TKRNT conducted the case studies in kōhanga reo, Māori immersion centres and ngā puna kōhungahunga.

For the sustainability evaluation, the opportunity was taken to collect data from these case studies on costs, revenues and sustainability impacts. Data collection was undertaken via a treasurer survey which was included

² The indicators used in the Monitoring Framework are provisional and Monitoring Framework reports are draft. Further development is taking place on the Monitoring Framework.

within the data collection tools administered by NZCER and TKRNT field researchers. HOI participated in field researcher briefings prior to the baseline and follow-up data collection periods to ensure a sound understanding of the Treasurer Survey questions. HOI was also available to field researchers by telephone throughout the fieldwork periods to clarify issues.

The collection of treasurer survey responses was supplemented by follow up telephone calls by HOI in order to remind respondents to return completed surveys, to provide reassurances about the confidentiality of data where ECE services were hesitant to respond, provide assistance by clarifying information requirements, and/or to seek clarification of responses provided in the survey.

By integrating the collection of financial data into the scheduled visits to ECE services by NZCER and TKRNT field researchers, the data collection process was designed to maximise the efficiency of data collection and facilitate a higher and better quality response rate through face to face contact, than could be achieved solely through remote methods of data collection. The agreed approach and budget for data collection did not make provision for HOI to make individual site visits, nor to conduct audits to verify the accuracy of the data provided.

It was anticipated that obtaining financial data from some cases studies would not be straightforward, due to differences in financial and attendance recording systems (with the result that data could not always be disaggregated in a consistent way to answer the survey questions); differences in the financial expertise of treasurers and the time available to these people (who are often volunteers) to provide the requested data; and sensitivities related to the disclosure of financial information (particularly on the part of private ECSs).

Baseline data collection was completed for 37 of the case studies (an 80 percent response rate). Of these, 30 provided follow-up data (resulting in a final response rate of 65 percent, which is broadly consistent with the expected response rate as determined from a full census of the sector through the operating cost surveys). Responses to both the 2004 and 2006 surveys were received from seven case study kindergartens, seven playcentres, six kohanga reo, five community-based ECSs, two home-based networks, two private ECSs and one playgroup. Some respondents did not complete all questions in the surveys, and some anomalous or poor quality responses were excluded from the analysis where these could not be clarified. Response rates to particular questions are indicated alongside findings in section 4.

The principal value of the case studies for the sustainability evaluation is the ability to link financial changes to changes in outcome indicators from the evaluation conducted by NZCER/TKRNT, in order to explore linkages between sustainability issues and the three goals of the Strategic Plan.

Analysis

The information and data obtained from the stakeholder consultations, secondary data sources and treasurer surveys were first analysed separately. Integrative analysis and synthesis of qualitative and quantitative findings was then carried out to address each evaluation question. Further analysis and context was incorporated in the report through the consideration of findings from the NZCER and TKRNT research on quality, participation and collaborative relationships (through two workshops with the Ministry of Education, NZCER, TKRNT and HOI; and through the analysis of indicator data and review of draft report findings from NZCER).

Thematic analysis of stakeholder feedback was undertaken by reviewing written notes gathered during each interview. Interview data were compiled and analysed according to stakeholder group. Overarching themes across groups were then identified. Two key processes were used in the qualitative analysis of interview data:

- Top-down: Key themes emanating from the consultations were identified and a draft structure was created for their analysis and reporting.
- Bottom-up: Interview notes were thoroughly analysed in a structured manner, addressing each research question in turn and populating the reporting framework (as well as making modifications to that framework as required).

Both forms of analyses were conducted in an iterative fashion until such time as thematic analysis became redundant.

Data analysis was conducted in Excel. Table 1, on the following pages, summarises the research questions and indicators together with the data collection and analysis that were undertaken to support each indicator. As a general principle, the analysis avoided value-judgements about what constitutes an ‘acceptable’ level of sustainability (in the absence of accepted benchmarks for this purpose) and instead focused on identifying improvements in indicators over time, through trend analysis.

Table 1: Research questions, indicators and data sources used in the evaluation

Research question	Indicators	Stakeholder Interviews	Secondary data	Case Studies
<p>What are changes in patterns of expenditure due to implementation of strategic plan?</p>	<p>Identify the additional costs associated with implementation of the Strategic Plan, and reasons for these.</p> <p>Identify the extra activities/investments being undertaken.</p>	<p>Feedback on additional costs incurred by ECE services in meeting the goals of the Strategic Plan.</p> <p>Feedback on anticipated cost impacts of regulatory changes.</p> <p>Feedback on any issues, unintended impacts, impacts for marginal services.</p>	<p>2005 and 2006 ECE operating cost surveys conducted by the Ministry of Education, including breakdowns by service type (raw data and Ministry analyses).</p>	<p>Changes in overall expenditures and breakdowns (e.g. teaching, other labour, professional development, capital, other) from treasurer surveys.</p>
	<p>Identify the additional revenues associated with implementation of the Strategic Plan.</p>	<p>Feedback on additional revenues received to cover the additional costs.</p> <p>Feedback on any issues, unintended impacts, impacts for marginal services.</p>	<p>Changes in government funding provided to each ECE service relative to changes in expenditure (total expenditures and service-level entitlements data provided by the Ministry).</p>	
<p>To what extent is sustainability changing/improving as a result of changes in revenues and costs (due to the implementation of the Strategic Plan)?</p>	<p>Supply: Number of Licensed Services</p>	<p>Feedback on any improvements, issues, unintended impacts, impacts for marginal services</p>	<p>Ministry data on numbers of licensed services by year.</p>	
	<p>Supply: Child-hour capacity</p>		<p>Annualised RS7 data on the maximum number of child-hours that can be used by ECE services, provided by the Ministry.</p>	

Research question	Indicators	Stakeholder Interviews	Secondary data	Case Studies
	Supply: Service closures	Feedback on any improvements, issues, unintended impacts, impacts for marginal services	Licensing data provided by the Ministry showing closed services by service type, year and reason for closure.	
	Demand/participation: Enrolments		Annual enrolment data from Education Counts.	
	Demand/participation: Hours of ECE used		Annualised RS7 data on the number of funded licensed child-hours used, provided by the Ministry.	
	Occupancy		Annualised data on licensed child-hours (maximum and used) and occupancy, provided by the Ministry of Education. Draft Monitoring Framework analyses provided by the Ministry.	
	Operating surplus/deficit		Cost and revenue data from ECE services financial information, provided by the Ministry (community-based services only). Draft Monitoring Framework analyses by the	Expenditure and revenue data from treasurer surveys.

Research question	Indicators	Stakeholder Interviews	Secondary data	Case Studies
			Ministry.	
	Working capital ratio		Data on current assets and liabilities from ECE services financial information (community-based services only). Draft Monitoring Framework analyses provided by Ministry.	
	Cash reserves and debts			Change in year-end cash reserves; year-end debt levels from treasurer surveys.
	Cashflow management			Qualitative feedback regarding monthly cashflow management issues from treasurer surveys.
	NZCER/TKRNT indicator of sustainability			NZCER/TKRNT analysis of a sustainability indicator based on enrolment sustainability, staffing sustainability and financial sustainability as reported by case study service managers.
Is the funding system having the intended effects?	Extent to which additional Government funding contributes to meeting the additional costs.	Feedback on the extent to which additional Government funding contributes to meeting	Consideration of cost and revenue analyses described above.	

Research question	Indicators	Stakeholder Interviews	Secondary data	Case Studies
	<p>Changes in Government funding relative to changes in costs.</p> <p>Changes in costs to families/whānau.</p>	<p>the additional costs.</p> <p>Feedback on any improvements, issues, unintended impacts, impacts for marginal services.</p>	<p>Statistics New Zealand CPI survey of ECE prices.</p>	
	<p>Extent to which the funding system has provided incentives to meet teacher registration targets.</p>	<p>Feedback on whether the additional funding has provided incentives to meet teacher registration targets and why/why not.</p>	<p>Progress against teacher registration targets from data provided by the Ministry. Data on advertised teacher vacancies from a sample of Education Gazettes. Teacher turnover data provided by the Ministry. Draft Monitoring Framework analyses provided by the Ministry.</p>	
<p>How are these changes contributing to improved quality, participation, collaborative relationships?</p>	<p>Impacts of changes in financial sustainability on quality, participation, collaborative relationships.</p>	<p>Feedback on any improvements, issues, unintended impacts, impacts for marginal services</p>	<p>Consideration of sustainability findings and overall quality/participation impacts from the above analyses.</p>	<p>Correlational analysis of treasurer survey data and NZCER/TKRNT outcome indicators.</p>
	<p>Accessibility, uptake and effects of the Government's support interventions under the strategic plan on sustainability and/or the</p>	<p>Feedback on the utilisation and impacts of the support interventions and any issues, unintended impacts, impacts for</p>		<p>Qualitative feedback on the accessibility, utilisation and impacts of the support interventions from treasurer</p>

Research question	Indicators	Stakeholder Interviews	Secondary data	Case Studies
	capacity of the service to improve participation, quality, collaborative relationships.	marginal services.		surveys.

4 Findings

This section addresses the evaluation questions with reference to national data, case study data and qualitative feedback obtained through stakeholder interviews. The first section identifies changes in patterns of expenditure and revenues of ECE services that may be associated with the implementation of the Strategic Plan. The second section examines whether services have become more sustainable since the introduction of the Strategic Plan and the new funding system. The third section assesses whether the new funding system is having the intended effects of avoiding cost increases to parents and providing incentives for teacher-led services to meet teacher registration targets. Finally, section 4 explores the impact of sustainability on quality and participation outcomes.

Expenditure and Revenue Changes

The implementation of the Strategic Plan has brought cost increases for ECE services as anticipated, and the majority of the additional financial costs have been matched by funding increases through the new funding system. The most marked cost increases are associated with the implementation of targets for registered qualified teachers in teacher-led services. Other costs which stakeholders attributed to the Strategic Plan (and other factors) are being incurred in the form of additional administrative workload which is predominantly being borne by existing managerial and administrative staff, but also sometimes include costs related to investing in new administrative staffing and infrastructure. The following paragraphs provide further detail on these themes.

Additional Costs Related to Implementation of the Strategic Plan: Stakeholder Feedback

Stakeholders identified two key groups of costs related to the implementation of the Strategic Plan: teacher salaries, and administrative costs. Key themes from stakeholder consultations are set out below, and are followed by analysis of national and case study data on expenditure by ECE services.

Teacher Salaries

Teacher salaries represent the single largest cost category associated with operating a teacher-led ECE service. For example, the 2006 operating cost survey found that teacher salary costs in teacher-led services represent around three-quarters of total operating costs on average. Therefore, any increases in teacher salary costs have a correspondingly large effect on the total costs of service provision.

Two key cost drivers of teacher salary costs are teacher qualifications and regulated teacher:child ratios – both of which fall within the ambit of the Strategic Plan. Teacher salary expenditures have increased for services that have employed more registered qualified teachers. Further cost increases are expected due to ratio changes in 2009. Increases in teacher salary costs have also been influenced by the transition to pay parity for kindergarten teachers.

According to stakeholders, the additional Government funding through the ECE funding system is largely covering the increased teacher salary costs related to meeting targets for registered qualified teachers.

Demand for Registered Qualified Teachers

The funding system has created strong demand for registered qualified teachers, and stakeholders reported that a number of services (including ECSs, kindergartens and home-based services) have experienced difficulties filling the available positions. This is consistent with findings from the locality-based case studies in the outcome evaluation conducted by NZCER and TKRNT (Mitchell and Hodgen, 2008) and with teacher vacancy and turnover data analysed later in this chapter.

According to stakeholders, the teacher shortage is most marked in Auckland and in some small towns and rural areas. Although stakeholders reported that the teacher shortage is placing upward pressure on rates of pay in these regions, Ministry analysis of operating cost survey data did not find a corresponding impact on teacher salary costs by region.

The teacher shortage has also increased recruitment costs for affected services, with employers spending more on advertising to attract applicants. For example, free advertising in the Education Gazette does not always generate sufficient interest in a position and service managers have started paying to advertise in mainstream newspapers as well.

Kindergartens are not immune to the teacher shortage despite their relatively attractive contractual and working conditions. The last step of pay parity came in July 2006 and, according to stakeholders, has effectively become the benchmark wage for ECS-based teachers, especially in regions affected by teacher shortages. In some cases ECSs are offering wages that exceed parity rates, as well as providing opportunities for accelerated progression, for example offering relatively new kindergarten teachers with 1-2 years of teaching experience supervisory positions at equivalent salary levels to kindergarten head teachers. Stakeholders reported that this has placed additional staffing pressure on kindergartens.

Kindergartens are increasingly focusing on the non-remunerative benefits of the work environment including professional development, non-contact time, and flexible hours of work to attract new staff. There are also moves to increase teacher supply. Two kindergarten association CEOs commented that many of their teacher aides were going through training to become registered teachers. Teacher supply could also be increased by attracting more male teachers into ECE, and at least one association plans to pursue this strategy.

There are costs associated with having people in training. Although some of these costs can be met through the Support Grant for Provisionally Registered Teachers, ECS and kindergarten stakeholders noted that there are additional costs as services have to pay teachers while they are in training as well as cover relieving teachers while they are studying.

In the home-based ECE sector, all coordinators are registered qualified teachers. However, stakeholders are finding it challenging to keep these positions filled due to the current shortage of teachers and attractive employment packages being offered by other employers including centre-based ECE services. Coordinator salary costs were said to have increased substantially over the last two years. Additional professional development costs are also anticipated for coordinators. Networks at greatest risk of losing registered qualified coordinators are in rural areas. In some of these areas there is only one home-based ECE provider, so this represents a supply risk to the community as well.

Although the pool of qualified staff is increasing across the country, stakeholders commented that this does not seem to be addressing the uneven distribution of teachers. The Ministry has implemented a range of strategies to redistribute teachers to areas of low supply (described in chapter 2). These have been well-received but stakeholders were unaware of how effective they had been, and suggested that the Ministry should report to the sector on the take-up and outcomes of these initiatives as well as on the inputs (e.g. the number of scholarships, etc).

Although evidence shows that qualified teachers enhance the quality of educational outcomes for children, stakeholders identified an unintended impact of the registered teacher targets. The shortage of registered qualified teachers has led to some concerns about quality among ECSs and kindergartens. Any pool of qualified professionals is likely to include some individuals whose work is below the quality expectations of their employers. When there is an under-supply of qualified people, service managers may have to consider employing individuals who they would otherwise not consider to be the best candidate for the job.

To quote two stakeholders:

“I am hearing lots of anecdotal evidence about people having to compromise around who they employ. They just need someone there with a diploma. They are not being able to put quite the team together they would like. If the person is qualified you would not turn them down, you would take them”.

“I am having to hold on to people who aren’t good enough, and make appointments we wish we weren’t in order to keep numbers up”.

It was also suggested that younger teachers are sometimes being placed in positions of responsibility too early.

“A teaching qualification is one thing – asking someone to manage a centre is another... they may not have the life skills to manage a team of 10 women, 50 parents, 50 kids, bureaucrats, etc ”.

The increase in numbers of newly qualified teachers was seen as a particular risk for under two year old places, as it was argued that new teachers often lack the practical skills required to deal safely and effectively with this age group (it was not explained why newly qualified teachers would lack these skills). In the past, people like Karitane nurses and ex-playcentre mothers have often been recruited into these positions, and this avenue is closing to employers under the new system.

Delays in the teacher registration process cause frustration and additional costs for employers as teachers expect a pay rise upon applying for registration and employers are carrying the additional cost for up to four months. This is a cost that they are not able to recover when the funding increases come through.

Kindergarten Teacher Salaries

For kindergartens, the ongoing move to pay parity, together with industrial and market-driven salary pressures, have driven continual and steep increases in kindergarten teacher salary costs over the last few years. As shown later (Table 3), kindergarten teacher salaries, similarly to teacher salaries in ECSs, represent approximately three quarters of kindergarten costs with this proportion increasing slightly between the 2005 and 2006 ECE operating cost surveys.

Although revenues received through Government funding have also been increasing, stakeholders said that the funding increases hadn't met the increase in teacher salaries, resulting in shortfalls over the last few years. Views were divided on whether the most recent increases to funding rates had caught up with teacher salary increases or not.

The influence of the State Sector Act on the employment arrangements for kindergarten teachers (including salaries, leave, professional development, redundancy and redeployment) is seen as a barrier to kindergartens competing on an equal footing with ECSs, because the costs of service provision were said to be higher for kindergartens (this was not evidenced in the operating cost surveys): *"The kindergarten world accepts that there is going to be change, but the industrial relations constraints mean we won't have a level playing field. Our staff costs are 20 percent higher than Consenting Parties due to salaries, annual and sick leave provisions and other terms and conditions"*. Consequently, the possibility of operating under a non-kindergarten structure, and outside the constraints of the State Sector Act, is increasingly being discussed within some associations.

Administrative Costs

Non-Financial Costs

The complexity of running an ECE service is increasing for a range of reasons, both related and unrelated to the Strategic Plan. As a result, service owners and managers are finding that they need to spend more time attending to administrative matters. According to stakeholders this work is largely being absorbed by existing people rather than employing additional staff to assist. Therefore, the associated costs are largely time-related rather than financial and may manifest in increased hours of work for owners, managers and/or volunteers; and/or reduced contact time for supervisors/lead teachers.

"Overall, the Strategic Plan is working with regard to giving recognition to the importance of ECE, therefore people are thinking more about how they manage it and what they are doing – this is a really good thing. The only real downside is the management of change – funding is keeping pace with everything else but does not recognise the very real additional costs in this area". (Kindergarten Association CEO).

The pace of change and the number of simultaneous changes taking place are also causing stress and fatigue, according to stakeholders. Some, like the new data collection and reporting requirements associated with administering Free ECE, are related to the Strategic Plan. This should be balanced to some extent by the sector increasingly turning from paper-based to computerised systems, and Free ECE has been the catalyst for some services to invest in system upgrades.

However, the Strategic Plan is not the only driver of increased administrative work for ECE services. For example, non-profit organisations wishing to keep their tax-exempt status must register with the newly formed Charities Commission and submit annual financial reports. Another recent regulatory change affects financial reporting requirements for the 15 largest kindergarten associations (classified as large organisations under the new framework). These associations will be required to meet international reporting standards including consolidating accounts and providing valuations on all properties owned. ECE services must also keep up with evolving requirements in areas such as property maintenance, building standards, and public health.

Although many of the costs of increased time spent in administration do not directly impact on ECE expenditures, there may be other risks to sustainability associated with the increased demands on people's time (depending upon the extent to which these demands turn out to be ongoing or temporary). Typical comments received from sector stakeholders included:

"It's taking up more of our evenings and weekends" (ECS owner).

"It's affecting my health" (Kindergarten Association CEO).

"The word that comes to mind is burnout" (Playcentre Association President).

"I support having the Strategic Plan. But it generates huge amounts of work. The Ministry needs to be mindful that our resources are limited. We are struggling to keep up with all of the new initiatives – we are feeling swamped" (Kindergarten Association CEO).

As well as affecting sustainability, high administrative workloads may have quality implications. For example, the evaluation of Strategic Plan outcomes conducted by NZCER and TKRNT identified "insufficient time and conditions to support effective teaching and learning processes" as an impediment to improving quality, especially in ECSs and kōhanga reo (Mitchell and Hodgen, 2008).

Volunteers

These increases in administrative workloads are also occurring in a context of reduced volunteer input, due both to a decreasing pool of people willing to contribute their time (e.g. due to high levels of labour market participation and employment) and regulatory requirements (such as Occupational Safety and Health) driving a preference for the engagement of paid professionals.

Skill deficits and high turnover in community-based management committees place some services at a disadvantage in terms of their governance and management capacity and capability (including financial management expertise) as well as in keeping pace with changes. As a result, some community-based services are reviewing their current governance and management structures, replacing voluntary positions with paid positions. In some cases this also increases the workload of teachers and existing management staff and, for services with an umbrella group infrastructure, the workloads of association staff.

It is also anticipated that regulatory changes in 2008 may result in further administrative costs being shifted from volunteers to paid staff. For services such as kōhanga reo and playcentres, which are heavily dependent on volunteers, a relatively modest withdrawal of volunteer time may represent a substantial additional financial cost if duties are transferred to paid staff. In the words of one Playcentre President:

"A lot of the roles that were in the past voluntary have become huge job descriptions with huge responsibilities, and we're increasingly turning them into paid positions, for example secretaries to carry out the admin work, reporting and legal requirements, and lines of communication with parents".

Playcentre associations are also increasingly employing people in financial accounting, liaison and project management roles to keep up to date with regulatory requirements and ensure ongoing compliance, and to implement curricula and supporting systems for adult and child education.

This problem is exacerbated by a high proportion of the time donated by volunteers being shared among a small subgroup of parents, i.e. *“the busiest five percent just get busier – the most valuable and experienced people are already overworked”*. Any withdrawal of support from this group could represent a major threat to the sustainability of playcentres.

High volunteer workloads have important implications for quality as well as sustainability. For example, research into quality in parent/whānau -led services found that high volunteer workload distracted some playcentre parents from participating fully in aspects of the playcentre that were important for children’s learning (Mitchell, Royal Tangaere, Mara and Wylie, 2006b).

Financial Costs

Financial costs are more directly affected where it is necessary to pay overtime or to employ additional staff, and where investments are necessary to upgrade information systems to accommodate new recording and accountability requirements.

Stakeholders said that these costs were difficult to quantify as they often represent incremental adjustments to everyday practice (and may be only partially attributable to the Strategic Plan, e.g. upgrades to computer systems that might have been needed anyway and have been hastened by the introduction of Free ECE). It was widely asserted that the additional costs were not adequately covered through the ECE funding system and were primarily being met through reduced expenditure in other areas (e.g. deferral of property maintenance or giving other projects a lower priority). Moreover, as already stated, any financial costs that could be measured would under-state the true cost in terms of the increasing amounts of time spent by paid and unpaid staff in administrative duties.

“We would like to take on more administrative people but we can’t afford to”. (Home-based coordinator).

In some cases, substantial financial costs have been incurred. One kindergarten association has employed an additional manager to relieve and redistribute the workload of the existing management team, resulting in an additional full-time salary and on-costs. Another has allocated increased resources to support staff and administration staff in each kindergarten, in order to enable teachers to focus more on teaching and learning.

The new accountability and reporting requirements associated with the new funding system are driving a range of administrative and IT costs for ECE services as well as initiatives to make systems more efficient. For example, TKRNT has made structural improvements through the redevelopment of IT systems and processes for administration and management. Training has been provided to whānau and kaiako at each kōhanga reo (with support from the Ministry of Education) in the collection of attendance data. An internet-based payment system has also been instigated which should reduce administrative time for treasurers.

Regulatory Changes

Regulatory changes scheduled to come into effect in 2008, with ratio changes to take effect in 2009 and 2010, are expected to cause further cost increases for ECE services.

Older centres may face greater issues with regard to meeting regulatory requirements related to buildings and facilities, and may face affordability issues depending upon the level of any funding increases accompanying

the new regulations. The requirement for re-licensing every six years is also expected to drive additional compliance costs, both in relation to the re-licensing process itself and in maintaining facilities to the standard required for re-licensing.

There is also anxiety that the ratio changes will intensify the current teacher shortage. Additionally, there is a perception that the financial viability of services for children under two may be threatened because the higher teacher:child ratios for this age group will lead to a more pronounced impact from any shortfall in funding relative to costs.

Kōhanga stakeholders asserted that restricted freedoms on the use of funds following the withdrawal of the property putea system several years ago will add to the challenges in meeting these additional costs. Complying with regulatory requirements is sometimes seen as a trade-off between financial sustainability and cultural sustainability for kōhanga, because while compliance is necessary in order to attract government funding, it is sometimes perceived as reducing whānau's autonomy and ownership of kōhanga.

Within the home-based sector there is some anxiety that if regulatory requirements applicable to centre-based ECE were to be imposed in a blanket way on home-based settings (e.g. building or playground equipment standards), educators may exit the industry.

Additional Costs Related to Implementation of the Strategic Plan: Analysis of National Data

Analysis was conducted by the Ministry and by the evaluators on data from the 2005 and 2006 operating cost surveys. Key findings in relation to cost increases and patterns of expenditure are summarised in the following paragraphs.

Cost Increases

The Ministry's analysis identified changes in the cost per funded child-hour³ between the 2005 and 2006 surveys. Average cost changes are summarised in Table 2. These are based on an average over all funded child-hours, prior to consideration of the relative costs of hours provided to children under 2 and children over 2 (the mix of which may vary over time).

Kindergarten costs increased by six percent and most ECS bands increased by 10-20 percent. The large increases in ECS costs were attributed to increases in the quality of inputs and increases in teacher salaries following the implementation of the new funding system. Over the same time period, government expenditure on these services increased by around 15 percent (Ministry of Education, 2006a). It is important to note that a number of ECSs will have moved to a higher funding band between the 2005 and 2006 surveys.

³ "Funded child hours" are the sum of each child's total hours of ECE that qualify for the ECE funding subsidy, as taken from the RS7 funding claim. The cost per funded child-hour is the ratio of total costs to funded child-hours. Enrolled child-hours are calculated using hours information from the RS61 compared to the RS7 funded hours for the same week. The difference between these two measures is indicative of the number of unfunded hours at a service. Averages based on funded child-hours can be misleading if a centre has a great deal more enrolled hours than funded hours. However, funded child-hours are an exact measure while enrolled hours are only an estimate.

For home-based and playcentre there was an apparent decrease in the overall cost per funded child-hour, which was tentatively attributed to a change in survey respondents for home-based and in question responses for playcentre.

Table 2: Average cost per funded child-hour – change between 2005 and 2006 ECE cost surveys

	2005 (GST- inclusive)	2006 (GST-inclusive)	Change	Percentage Change
Home-based	\$8.77	\$8.26	-	-5.8%
Playcentre	\$4.96	\$4.49	-	-9.4%
Kindergarten	\$4.94	\$5.24	0.30	6.1%
ECS by funding band (i.e. percentage of registered teachers):				
All day 100%	\$6.59	\$7.90	1.31	19.8%
All day 80-99%	\$7.82	\$8.56	0.74	9.5%
All day 50-79%	\$7.14	\$7.39	0.25	3.4%
All day 25-49%	\$6.47	\$7.09	0.62	9.5%
All day 0-24%*	\$5.61	\$8.17	2.56	45.6%
Sessional 100%	\$5.90	\$6.45	0.55	9.3%
Sessional 80-99%	\$6.05	\$7.08	1.03	17.0%
Sessional 50-79%	\$5.37	\$6.10	0.73	13.7%
Sessional 25-49%*	\$6.15	\$6.77	0.62	10.1%
Sessional 0-24%*	\$8.52	\$9.85	1.33	15.6%

Source: Ministry of Education, 2006.

* Analysis by funding band requires some caution due to very low numbers of services in the indicated bands.

Changes in Expenditure Patterns

With regard to changes in expenditure breakdowns between years, the Ministry analysed the proportion of expenditure on key cost areas, namely teacher salaries, other staff salaries, property costs, and operational costs. As the 2005 survey did not capture accommodation costs, these were excluded from the comparison between 2005 and 2006. The Ministry found that the split in 2006 was very similar to 2005 for all service types, with slightly higher spending on teacher salaries, as shown in Table 3. Property expenditure decreased for all types.

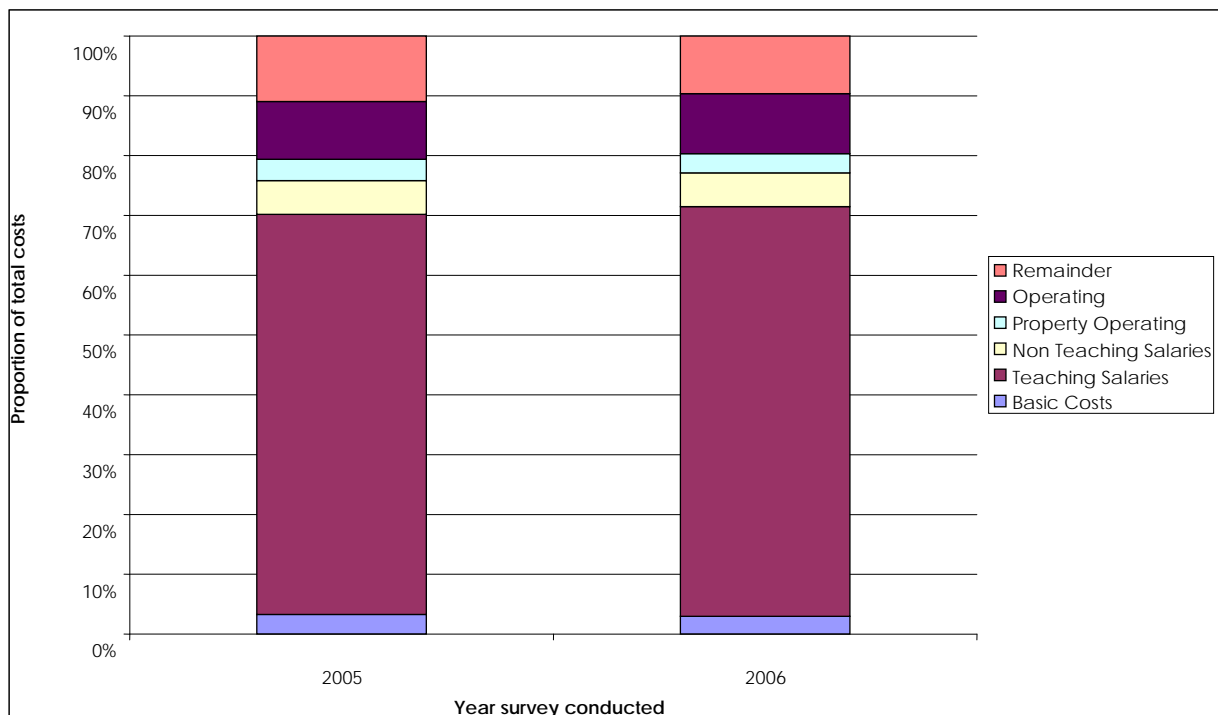
It is important to note that a large component of change in ECS cost would be attributable to services moving into higher teacher registration bands. Therefore, the comparison between the two time periods is not straightforward.

Table 3: Expenditure breakdowns from 2005 and 2006 ECE cost surveys

	Teacher Salaries	Other Salaries	Property	Operational Costs
ECS 2005	74.5%	6.0%	4.3%	15.2%
ECS 2006	75.4%	6.0%	3.9%	14.7%
Kindergarten 2005	73.6%	4.6%	6.0%	15.8%
Kindergarten 2006	75.9%	4.8%	5.2%	14.1%
Playcentre 2005	26.8%	0.9%	24.6%	47.7%
Playcentre 2006	28.2%	0.5%	19.1%	52.2%
Home-based 2005	20.4%	63.1%	1.8%	14.8%
Home-based 2006	20.5%	60.9%	1.3%	17.3%

Source: Ministry of Education, 2006.

The evaluators conducted further analysis, based on a more detailed breakdown of the survey data, and for Kōhanga Reo (for which data became available subsequent to the Ministry's analysis shown above). Consistent with the Ministry's finding, there were no notable changes between the 2005 and 2006 operating cost surveys, beyond a slight increase in teacher salary costs in proportion to total costs. Figure 1 shows the result for ECSs, as an example.

Figure 1: Breakdown of ECS expenditures reported in 2005 and 2006 operating cost surveys

It is important to note that the operating cost surveys collected data from the most recent completed financial year at the time the surveys were conducted (mid 2005 and mid 2006). Different ECE services use different financial calendars. Only 25 percent of respondents to the 2006 survey provided financial data covering a full 12-month period *after* the introduction of the new funding system. For the majority of respondents (65 percent), the introduction of the new funding system came part-way through their most recent completed financial year. The remainder (10 percent) provided data for a 12-month period that pre-dated the introduction of the new funding system.

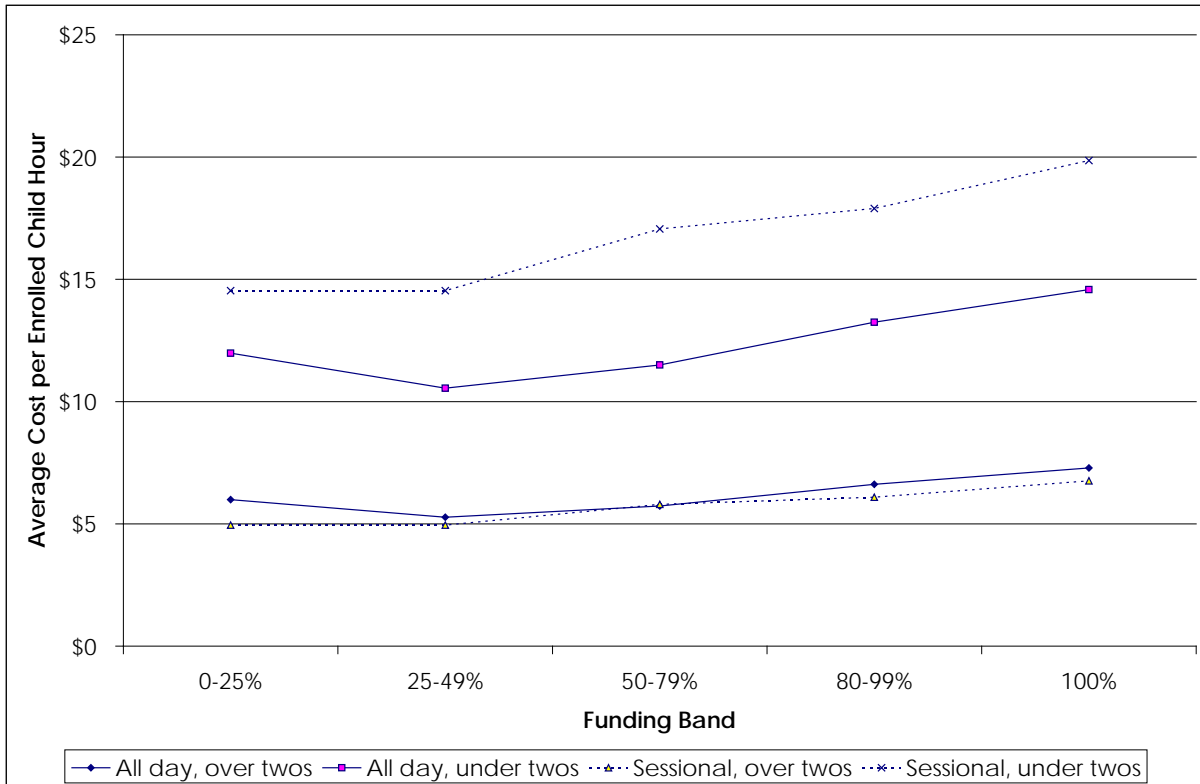
Therefore, any changes in patterns of expenditure associated with the implementation of the Strategic Plan will be under-stated in the surveys. Future operating cost surveys may show a greater increase in teacher salaries, for example.

Moreover, any increases in non-financial cost (e.g. time spent by existing staff in administrative duties, as identified by stakeholders) would not be detected by the operating cost surveys.

Registered Teachers

Although the increase in teacher salary costs may be under-stated in the operating cost surveys, the relationship between funding band and overall costs was more evident in the 2006 Survey, as shown in Figure 2. The lower two funding bands have very few services (especially the sessional services) so the average cost figures within these bands may be skewed by individual services.

Figure 2: Cost per enrolled hour by funding band for ECSs



Distribution of Costs by Service Type

The Ministry also analysed the range of expenditures by service type (Table 4). The analysis showed that Kindergartens are the most tightly clustered service type, followed by home-based services. The range of costs is influenced by age structure at each service and also the number of services reporting for several services combined rather than by individual service.

It was also found that the average cost per child-hour was higher at community-based services than at privately owned services.

Table 4: Cost per funded child-hour by service type per over-two enrolled hour including capital, from 2006 operating cost survey

(GST-inclusive)	Mean	Median	90th %ile	75th %ile	25th %ile	10th %ile
Education & Care	\$6.09	\$5.90	\$8.41	\$7.01	\$4.91	\$3.97
Kindergarten	\$5.50	\$5.62	\$5.71	\$5.71	\$5.21	\$4.98
Home-based	\$5.40	\$5.55	\$6.61	\$6.04	\$4.91	\$3.86
Playcentre	\$3.85	\$3.58	\$5.62	\$4.60	\$2.79	\$2.08
Kōhanga Reo	\$5.66	\$5.32	\$7.35	\$6.19	\$4.60	\$3.89

Source: Ministry of Education, 2006.

Regional Cost Comparison

The Ministry's analysis of average cost per enrolled child-hour by region, based on 2006 survey data, found that in general the larger cities tended to have a higher cost per enrolled child-hour than the rest of the country. The exception was Auckland which, contrary to stakeholders' observations of pressure on teacher salaries due to a shortage of registered teachers, had among the lowest average rate per enrolled hour of any region. The difference between cost per funded child-hour and per enrolled hour was greater in the main centres than the rest of the country, indicating that there were more unfunded hours in these areas.

The Ministry's analysis found that the main differences in the cost of provision appeared due to the age of children enrolled, the type of service and the proportion of registered teachers, rather than location (Ministry of Education, 2007a).

As already noted, teacher salary cost increases (including differential regional impacts) will be lagged in the operating cost surveys because the surveys collect financial results from services' most recent completed financial years. Therefore further monitoring of regional cost differences is warranted.

Table 5: Average cost per enrolled child-hour by region, from 2006 operating cost survey

	Average Cost Overall	Average Cost: All Day 80-99%	N= All Day 80-99%	Average Cost: All Day 50-79%	N= All Day 50-79%
Auckland	\$5.94	\$7.07	40	\$5.53	60
Wellington	\$6.54	\$6.69	28	\$6.09	28
Hamilton	\$6.38	\$6.49	7	\$6.33	11
Rest of North Island	\$5.76	\$5.98	50	\$5.58	76
Christchurch	\$6.96	\$7.42	29	\$6.09	7
Dunedin	\$6.71	\$5.64	8	\$5.87	30
Rest of South Island	\$6.05	\$6.58	39		
All	\$6.09	\$6.62	201	\$5.73	212

Source: Ministry of Education, 2007.

Analysis of Case Study Data

Financial data reported by the locality-based case studies in 2004 and 2006 showed broadly similar results to those discussed above. Twenty-five case studies provided figures for total expenditure in both the baseline and follow up surveys, enabling examination of movement between the two periods. The median increase in expenditure over the two-year period was two percent. Of these case studies, fourteen also reported child-hours of ECE provided during the two time periods. The median increase in expenditure per child-hour was three percent.

Thirteen teacher-led services provided figures for both total expenditure and teacher salary expenditures for both time periods. Teacher salaries had increased in proportion to total expenditures for the majority of these (10 out of 13). There were no other discernable patterns or trends across other expenditure categories.

Additional Revenues Related to Implementation of the Strategic Plan

The Government's investment to support the implementation of the Strategic Plan is substantial, totalling an additional \$340 million in payments to ECE services in the three fiscal years following 2002/03. This section explores the impacts of these investments for ECE services in terms of the additional revenues received.

Figure 3 provides a breakdown of Government expenditures on ECE funding and shows the growth in total Government expenditures. Most of the increased ECE funding to date has been through increased ECE funding subsidy rates which, in addition to general increases in funding rates, has been targeted at meeting the

additional costs of service provision associated with quality improvements through the employment of registered qualified teachers.

Figure 3: Government expenditures on ECE funding (GST-exclusive)

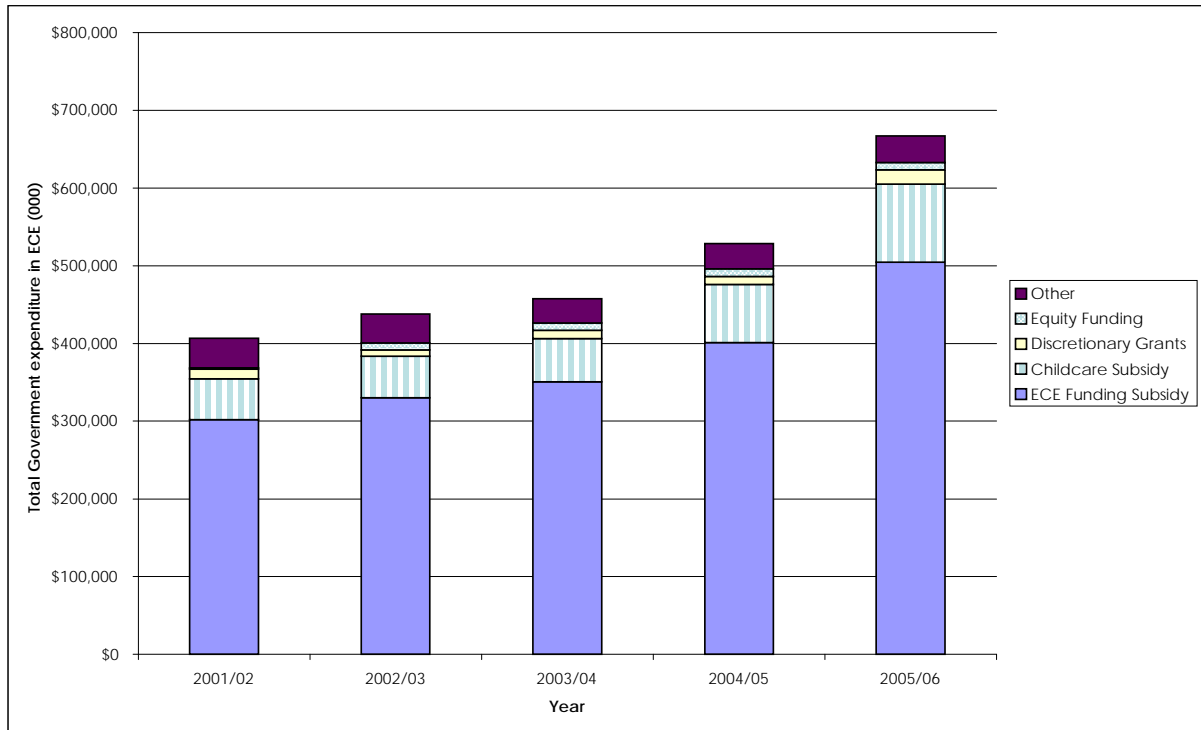
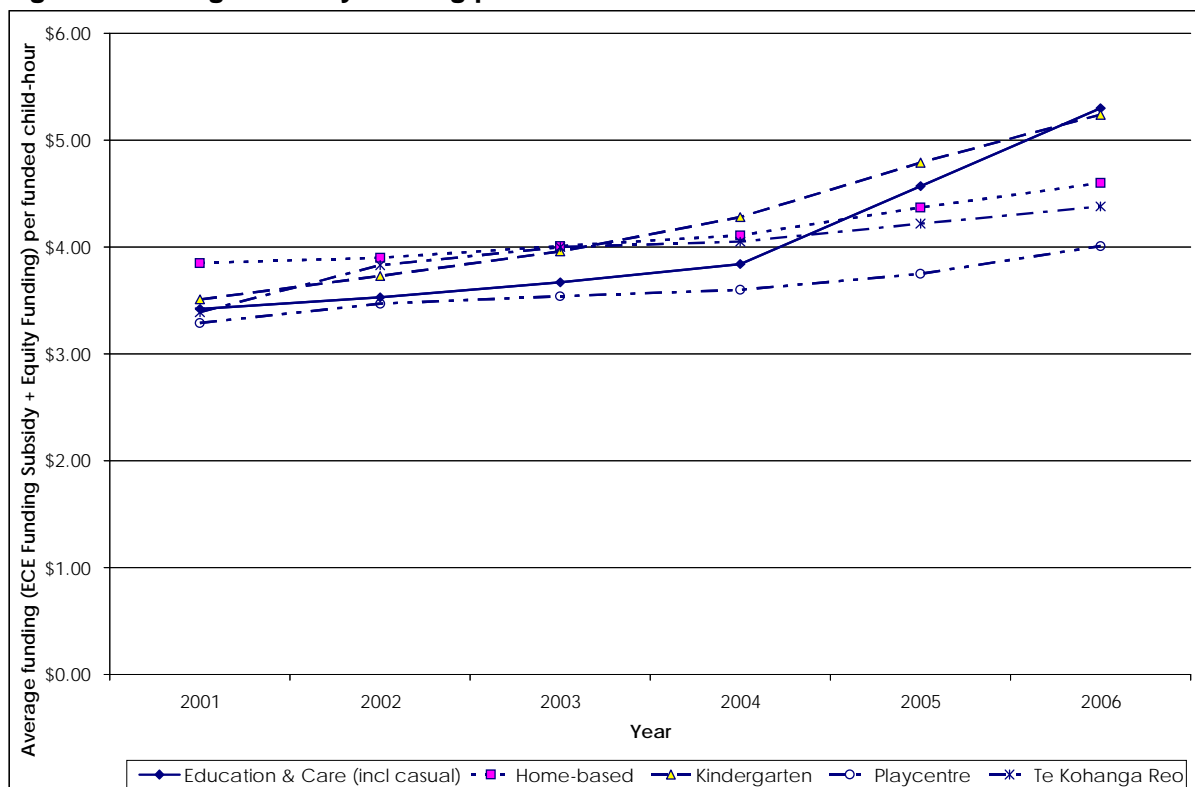


Figure 4 shows the aggregate growth in the ECE funding subsidy and Equity Funding entitlements for different ECE service types, on a per funded child-hour basis.

A key feature of the graph is the sharp increase in funding for 2005 and 2006 compared to the more gradual increase prior to the implementation of the new funding system. The increase is greatest for ECSs, due to uptake of the increased funding rates for employment of registered qualified teachers.

Figure 4: Average Ministry funding per funded child-hour

Stakeholder Feedback

Stakeholder comments on the new funding system were predominantly positive. However, some criticisms were raised by home-based ECE stakeholders, who argued that cashflow is tighter under the Quality rate of funding than the Standard rate.⁴ Consequently, it was argued that the Standard rate provides greater financial leeway which in turn enables services to provide quality features above the minimum standard (e.g. to employ coordinators at above minimum ratios).

It was also argued that it does not make sense to have separate funding rates for children under two and over two in home-based ECE as the costs are principally ratio-driven and a cost difference therefore cannot be discerned under the home-based model of service provision. It was argued that a single funding rate would provide better stability and ability to plan. The existence of separate rates forces networks to actively manage the balance of under-two and over-two children enrolled to avoid a sudden drop in funding (which can equate to a coordinator salary) when members of the younger cohort reach their second birthday. This can run counter to the goal of boosting participation.

⁴ The Early Childhood Education Funding Handbook (2007 update) (Ministry of Education, 2007) defines the Standard Funding Rate as “The minimum funding level for home-based care networks and parent/whānau-led services. Services that meet the requirements of the Education (Early Childhood Centres) Regulations (1998) or the Home-Based Care Order (1992 and 1998 Amendment) are eligible for this rate”. The Funding Handbook defines the Quality Funding Rate as “High funding rates for home-based care networks or parent/whānau-led services that choose to meet additional criteria above what is required in the Early Childhood Regulations (1998) or Home-Based Care Order (1992 and 1998 Amendment)”. There are several options for additional criteria that may be met, depending on the service type.

Playcentre stakeholders also argued that the separate funding rates for children under two and over two did not reflect the true costs of service provision as, under the playcentre model, the costs associated with children over two are often higher than those for under-tuos due to the nature of learning resources provided for the older age group.

Stakeholder consultations for this evaluation were conducted prior to the 1 July 2007 implementation of Free ECE. While the majority of additional ECE funding prior to this date was associated with quality (registered teachers), Free ECE represents a significant investment in participation. The benefits of Free ECE for families, and the impacts of Free ECE on the marketplace, will only be known after monitoring and evaluating the rollout for a duration.

Sustainability Impacts of Strategic Plan

This section examines whether services have become more sustainable since the introduction of the Strategic Plan and the new funding system, for the sector overall and for sub-groups.

Stakeholder Feedback on Sustainability Impacts of Strategic Plan

Stakeholders see the Strategic Plan as a very important document and a major influence on the direction of ECE in boosting quality, participation and collaborative relationships. On the whole, stakeholders believe that together, the Strategic Plan and the new funding system have not had a major impact on the sustainability of ECE services (that is, that the additional revenues and the additional costs largely balance, so that any net effect overall on the sustainability of ECE services is small).

Broader determinants such as economic trends, demographic trends, and labour market policies considered to play a greater role in determining the ongoing demand for and relative sustainability of the various types of ECE service. In particular, a sector-wide trend to increased demand for full-day services and subsiding demand for sessional services, driven by high rates of employment and government policies to encourage parents to re-enter the workforce is seen as a major force re-shaping the sector. Stakeholders from parent/whānau-led ECE argued that the Strategic Plan is reinforcing these trends. There are also gradual trends toward clustering of services and more efficient use of facilities.

Trend to All-Day ECE

Over recent years there has been a gradual sector-wide trend toward increased demand for all-day ECE, supplanting some of the demand for sessional services (refer to Figure 16 later in this section). Stakeholders believe that this trend will continue, driven by the current strong economy, evolving societal preferences and government policies aimed at encouraging labour force participation. These policies are widely viewed as a threat by providers of sessional services including playcentres and kindergartens. In the words of one stakeholder:

“The Government say they value diversity within the sector, but really they are pushing sessional to the wall, wanting all-day services to meet the needs of working families. The funding rates for Free ECE highlight that – incentivising services to change to full-day.”

Stakeholders from both public and private sessional ECE services who were interviewed for this evaluation believed that occupancy in some sessional ECE services will continue to reduce to the extent that increasing

numbers of these services will become unsustainable. According to stakeholders, this trend has already been the primary driver behind the closure of some playcentres and kindergartens, with further centres currently under review. Among the communities most likely to be adversely affected by this trend include areas with low rates of participation in ECE and poor access to alternative ECE services. The trend to all-day ECE is similarly expected to impact on demand for kōhanga reo places.

Kindergarten Association CEOs indicated that they have begun to re-align kindergartens to the new demand environment. As well as identifying points of difference, branding and marketing sessional kindergarten services, this involves offering longer sessions in some kindergartens. Some kindergartens have obtained all-day licenses, and kindergarten associations predict that this will increase. For example, some will convert to offer full-day services while others may offer ECE from 9am-3pm, especially those located on school sites.

As these changes affect the working conditions of kindergarten teachers in these locations, implementation involves union negotiations which affect the pace of change. Associations are often taking a staged approach which starts by reducing the rolls in these kindergartens. The time periods required to make changes affect operating costs in the interim period, with the result that some kindergartens operate at a loss for 12-18 months while consultations take place.

These kindergarten changes will drive further demand for registered qualified teachers. They will also reduce the number of families who can access kindergarten services, which may lower the donation base. As a result, associations are increasingly considering the possibility of charging fees (at a higher rate than the current donation) and at least one association has already implemented this change. Anecdotally, these changes are supported by many parents, who prefer paying increased fees to participating in fundraising and other voluntary activities, and so that they can access Childcare Subsidy.

Although there are often significant financial and practical barriers to converting existing physical facilities to all-day centres (due to space and other regulatory requirements, especially for children under 2), new all-day centres could be opened as sessional centres are closed, or in some cases be co-located with an existing sessional centre. One stakeholder suggested that the new funding rates may serve to reinforce this trend, if a) the (higher) rate of funding for full-day services provides full-day services with a greater capacity than sessional services to attract and retain staff; and b) Free ECE further shifts demand away from services offering less than 20 hours ECE per week to services offering 20 hours or more. However, it is noteworthy that all three of the kindergarten associations interviewed already operate full-day ECSs as well as kindergartens so may have a greater predisposition to expand this aspect of their business than other associations.

Sustainability of the Playcentre Service Model

The May 2006 Budget increased playcentre funding to improve financial sustainability and “help reduce the time playcentre volunteers currently need to spend on administration, so they can spend more time with children” (Maharey, 2006 - Cited in Mitchell and Hodgen, 2008). Despite this, feedback from playcentre stakeholders was that further increases would be necessary to make a substantial difference in this area.

Playcentre training is now funded at its full EFT value (the Playcentre Education Diploma was previously funded at about one third of this value). This may reduce levies playcentres need to pay their associations for training, and so reduce the need to fundraise (Mitchell and Hodgen, 2008).

Playcentre stakeholders perceive that the new funding incentives for teacher-led services to employ registered and qualified teachers devalue other quality features such as those inherent in parent-led ECE. Stakeholders framed this less as a funding issue than as a lack of recognition of these quality features and of the value of parent-led options for both parents and children. Although findings from the Ministry-led research on quality in parent-led services (Mitchell, Royal Tangaere, Mara and Wylie, 2006b) enhanced this recognition, there was a general perception that the Strategic Plan marginalises the playcentre model by focusing on teacher-led services.

There was also concern that the training for parents offered by the playcentre movement, which has traditionally provided a career path to ECE teaching, is now of diminished value to parents and the sector because even the most highly qualified and experienced playcentre parents are not recognised as being qualified teachers, and playcentre training cannot be credited towards the ECE Diploma.

Playcentre enrolments have been declining gradually for some years due to societal shifts including increasing parental participation in the labour force. Stakeholders observed that playcentres that have faced financial sustainability issues have generally been those with low/falling rolls to the extent that they are unable to meet their fixed costs, and that these are placed at greater risk where there is also high turnover of attending families. This was thought to be most likely to occur in low socioeconomic status areas with more rental housing and a more transient population. Similarly, the evaluation of Strategic Plan outcomes conducted by NZCER and TKRNT found that in parent-led services, parent turnover and declining rolls created workload pressures for a small group of parents, and difficulties in sustaining educator qualification levels (Mitchell and Hodgen, 2008).

Due to their organisational structure, playcentres that struggle financially are able to be supported to some extent by the umbrella group in order to ensure they continue to serve their communities (Health Outcomes International, 2003). However, decisions have been made to close or merge some centres.

Stakeholders predicted further amalgamations of playcentres in the future, and the running of more sessions per day to make more efficient use of facilities. There is also a trend toward multi-use facilities. While there is recognition of the economic imperative for these gradual shifts, there is also some resistance to this:

“It is not something people are keen on because of the way we work. People become attached to where they are and their own centre culture and style of practice. It is a big change in philosophy for us to take that power away from people and tell them how it should be done.”

Corporatisation of ECSs

Anecdotally, an increasing number of stand-alone ECSs (both private and community-based) are being sold to corporate owners. Although corporate operators have been in the market for a number of years, stakeholders have spoken of recent trends toward the aggressive acquisition of ECE services by two corporate entities, while instances of individual owners buying services have markedly reduced.

The increasing administrative complexity and costs involved in operating an ECE service, combined with opportunities to realise efficiencies and provide centralised support through a corporate structure, suggest that the trend is likely to continue.

The potential advantages of the corporatisation of ECE services include the capacity to increase quality through the centralisation of many administrative functions, freeing up senior teacher time for working with children. There is also the potential to strengthen the management and governance of these services, at least from a business perspective, with positive impacts on sustainability. However, the sustainability benefit for the sector as a whole is likely to be small, as services that meet the investment criteria of corporate entities are most likely to be those that are already financially sustainable or that can readily be made more profitable through changes to the management approach.

Some stakeholders felt that corporatisation may reduce diversity within the sector, and bring an increased profit focus at the expense of quality. Although it is not a foregone conclusion that corporatisation would result in these impacts (and neither is corporatisation a prerequisite to these impacts occurring), the Ministry may wish to monitor the clustering of services within large profit-driven entities and the impacts of this for sustainability, diversity and quality.

Not-for-profit organisations such as kindergarten associations and Barnardos represent another option for services to realise economies of scale and benefit from access to strong governance and leadership, and such mergers are taking place, albeit in smaller numbers than private acquisitions.

Cultural Sustainability

While sustainability is primarily being evaluated in financial terms, TKRNT also identified cultural aspects of sustainability. Some ECE services and their umbrella groups play an important role in keeping culture and language alive in a new generation of children. This is especially the case with TKRNT, which was established with this specific objective. Thus, the sustainability of kōhanga reo, and TKRNT as a whole (in terms of participation, quality defined in 'cultural sustainability' terms, and ongoing financial viability), has important implications for the ongoing capacity of ECE to support the sustainability of te reo and tikanga Māori. This general principle also applies to other Māori language ECE services and to Pasifika ECE services.

The TKRNT Three-Year Business Plan has strong themes in common with the Ten Year Strategic Plan for ECE including quality, participation, and sustainability as well as themes of accountability and life-long learning (Te Kōhanga Reo National Trust, 2003). Thus, the strategic focus of TKRNT is well-aligned with the Strategic Plan. However, the TKRNT document has a stronger focus on the quality of te reo (in keeping with its cultural sustainability objectives) which is supported through professional development of kaiako, including a three-year training programme developed around Te Whaariki, comprising five NZQA accredited courses, and delivered by kaumatua.

TKRNT is currently in a critical phase with regard to cultural sustainability. When the kōhanga movement started, most kaiako were in the 50-60 age group and were native te reo speakers. Currently the majority of kaiako have learned te reo as a second language. As a result, the quality of te reo taught in kōhanga is not as high as it was 20 years ago. In another 20 years, it is predicted that most kaiako will be kōhanga graduates.

Pasifika Early Childhood Education Services

Meeting teacher registration targets has posed particular difficulties for Pasifika services, which have often had a lower proportion of teachers who are registered and qualified than the ECS sector as a whole. The National Diploma in Teaching (ECE Pasifika) course is expected to help alleviate this shortage – but for many of the

existing experienced Pasifika ECE teachers this is perceived to be a hurdle as it is additional to qualifications and experience they have already gained such as the two-year PIECCA Diploma. Despite recognition of prior learning, the additional requirements and costs associated with becoming fully qualified and registered under the new system are seen as a barrier by many of these teachers.

Pasifika services are usually governed by community groups and sometimes these groups struggle to provide an infrastructure that will support the employment of registered qualified teachers. Teachers in licensed Pasifika services often work for low rates of pay compared to the rest of the sector. As a result, Pasifika ECE teachers face incentives to move into mainstream ECE services upon attaining their teaching qualification.

Pasifika services often face difficulties in meeting the Ministry's administrative requirements associated with running an ECS. For example, Pasifika services are very reliant on volunteers to carry out many of these duties. Often there is a low skill/resource base in financial and operational management and this exposes Pasifika centres to risks associated with tasks such as managing payroll, accounting for PAYE and GST, maintaining attendance records, and rostering to meet ratio requirements. Cultural factors also play a role; in the words of one Pasifika stakeholder, *"It is not our culture to document – we talk"*. As administrative workloads increase, Pasifika services (like their mainstream counterparts) are finding that supervisors often spend less time teaching. It is sometimes necessary to employ an additional teacher, with corresponding impacts on the costs of service provision.

Pasifika services are building capability in management and governance, and Ministry-funded advice and support contracts have been useful in this regard. However, as compliance increases, it is often felt that the services lose some of their ability to cater to the cultural values, beliefs and traditions of the various Pasifika communities who established the ECE services to meet a community need for services in their own culture. This gives rise to 'cultural sustainability' issues similar to those raised by TKRNT. Pasifika communities wish to retain what they see as quality features of ECE services which are culturally specific and may differ from or even conflict with those quality features given prominence in the Strategic Plan.

Where these conflicts exist there is a risk of the Strategic Plan making Pasifika ECE services less sustainable: *"If we don't have the patience, the money, the time, the commitment... some decide to dissolve rather than go through the process"*.

Often, licensed Pasifika ECSs evolve out of unlicensed centres. An increasing number of centres have become licensed and chartered and further centres are working towards being licensed. However, the increased requirements brought in by the Strategic Plan (such as teacher registration targets) make it more difficult for an unlicensed service to make the transition to being a licensed service. Thus, the increased quality requirements present risks to the supply of quality Pasifika ECE under the Strategic Plan. According to stakeholders, the practical impact of this is that the numbers of Pasifika ECE services that are able to become licensed are restricted and that many that are working toward becoming licensed delay completing the process. *"What is the use of having the Plan when you make it harder for people to get there?"*

Furthermore, unlicensed services typically start out as the initiative of a few families who support and nurture the development of the service from the ground up including teaching, administration and fundraising. If the increased regulatory requirements are perceived as marginalising the role of these parents (because they are not qualified teachers), there is the risk of the service losing their support if it were to become licensed. One potential solution to this is to encourage parents to enter the national diploma courses.

Marginal ECE Services and Services with Limited Financial Expertise

Stand-alone ECSs that struggled financially prior to the introduction of the Strategic Plan may be affected more adversely by additional costs and administrative demands than other services as they are more likely to also be struggling with existing administrative responsibilities as well as servicing low socio-economic areas that have fewer options when it comes to raising additional funds. Sessional ECE services with existing financial difficulties are seen as being especially at risk.

Feedback from stakeholders and experience with the operating cost surveys and treasurer surveys suggest that some managers and treasurers struggle with the financial management aspects of operating an ECE service. Treasurers in community-based services are often volunteers and come from a range of backgrounds, from experienced chartered accountants to people with no formal financial training. Similarly, managers of stand-alone services may find themselves responsible for managing the service's finances without having had any training in financial management. Stakeholders also asserted that the accountants engaged by ECE services to prepare annual financial statements sometimes lacked sufficient understanding of the sector.

In order to be fully effective, the Government's investment in ECE must be appropriately managed by ECE services. While this may occur in the majority of cases, it was suggested that the Ministry should provide a package of PD/advice and support on financial management of ECE services to ensure basic financial management principles and concepts are understood by those who manage services' finances.

Community-based ECE services that are supported by an umbrella structure have better opportunities to access management support and financial assistance in order to ensure their sustainability. Closures of kindergartens, playcentres and kōhanga reo are more likely to be driven by strategic decisions taking broader supply and demand issues into account alongside immediate financial circumstances.

Two of the kindergarten association CEOs interviewed for this research said that the number of kindergartens running an operating deficit at their associations had increased over the last few years and that it was increasingly difficult for these kindergartens to raise enough funds from local fundraising to continue meeting their costs. It was argued that these kindergartens would have closed if they were stand-alone services.

Indicators of Sustainability

The following paragraphs present analysis of indicators of sustainability. The indicators largely support the assertion by stakeholders that the sustainability of ECE service provision has, on the whole, been unchanged by the introduction of the Strategic Plan and the new funding system. Some indicators suggest that sustainability may be improving.

Supply: Number of Licensed Services

The number of licensed ECE services in operation provides an indication of the sustainability of the ECE sector as a whole; if the number of services is stable or increasing, this provides a prima facie argument that service operators expect to be able to cover their costs (if not-for-profit) or make a return on their investment (if privately owned).

Figure 5 shows a gradual increase in the total number of licensed ECE services during the period 2001-2006 (in fact, Ministry data shows a consistent increase every year since 1990). Most of the growth in service numbers has been driven by the ECS segment and, to a lesser extent, by home-based ECE. Kindergarten

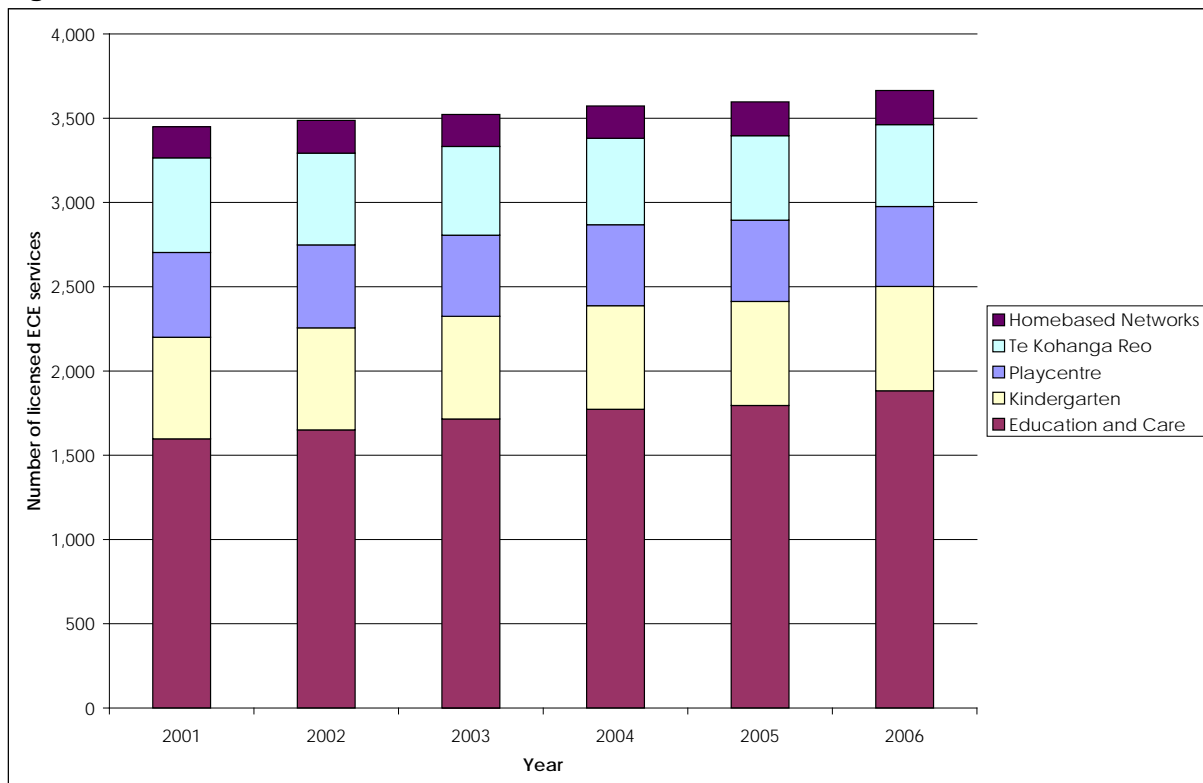
numbers have increased slightly over the period shown, while numbers of licensed playcentres and kōhanga reo have reduced.

The Strategic Plan has thus been implemented in the context of ongoing overall growth in teacher-led services and reducing numbers of parent/whānau-led services, and does not appear to have impacted greatly on these trends. Notwithstanding this overarching observation, between 2005 and 2006, numbers of licensed services grew by 1.9 percent, the highest rate of growth since 1999-2000. This was due to the 4.9 percent growth in the number of licensed ECSs, exceeding ECS increases for the preceding years in the graph which ranged from 1.2 percent from 2004-2005, to 3.9 percent from 2002-2003. The number of home-based networks grew by 4.7 percent from 2004-2005 but by only 0.5 percent the following year.

The recent increased growth in ECSs suggests that this segment is responding to increased demand for ECE and has confidence of ongoing financial viability.

The ongoing reduction in numbers of parent/whānau-led services may be attributed to societal trends in relation to the labour market and the types of services demanded by families, among other factors, and has been occurring steadily since the late 1990s. As discussed earlier, although this trend is not attributable to the Strategic Plan, stakeholders from parent/whānau-led services believed the Strategic Plan should be doing more to promote parent/whānau-led ECE as a high quality option.

Figure 5: Numbers of licensed ECE services



Supply: Child-Hour Capacity

A more sensitive indicator of the overall size of the ECE sector is its capacity, measured by the total number of available (licensed) child-hours per year. Since 2001, the capacity of the sector has increased by 15 percent, or 24.6 million additional child-hours.

Figure 6 shows the marked year-on-year growth in ECS capacity since 2001. Home-based ECE has also been trending upwards, although with much lower overall capacity. Kindergarten capacity has remained static since 2002.

The child-hour capacity of playcentre and kōhanga reo has decreased less markedly than their numbers of licensed services. This accords with stakeholders’ observations that service closures and mergers have principally been driven by low enrolments, and with the trend toward more efficient use of facilities.

Figure 6: National capacity in child-hours by ECE type

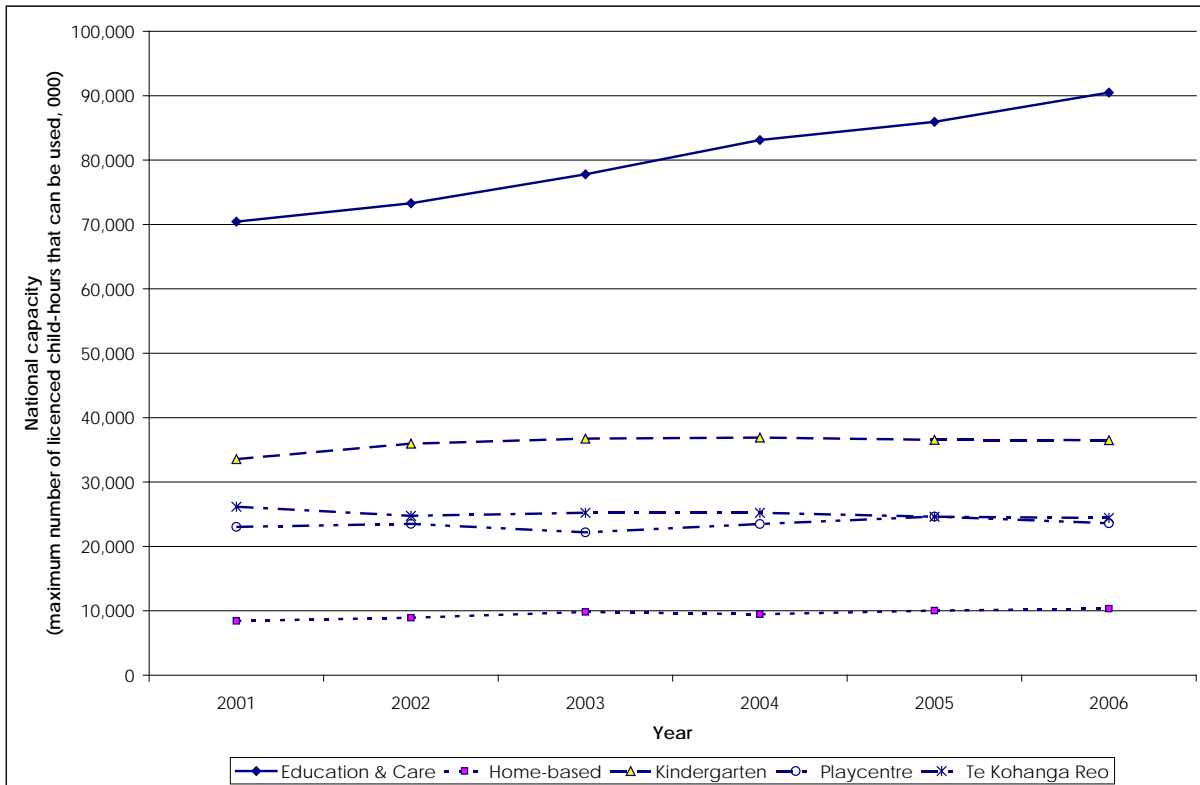
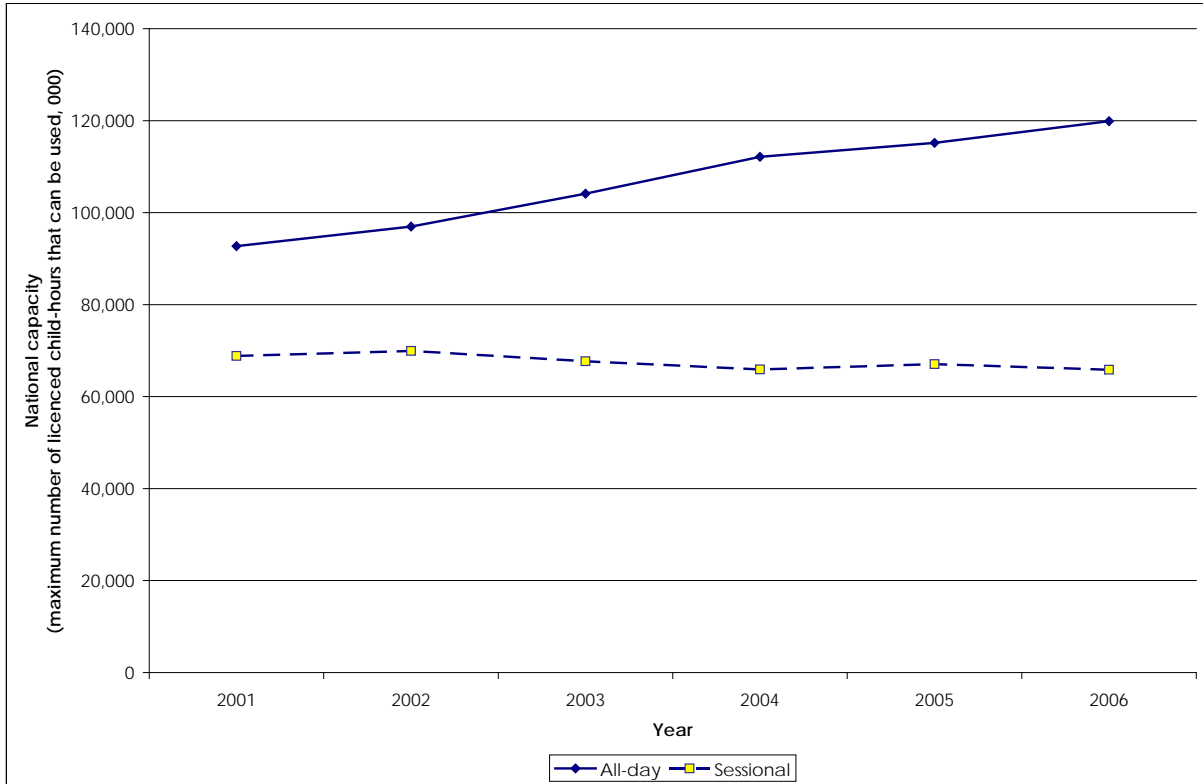


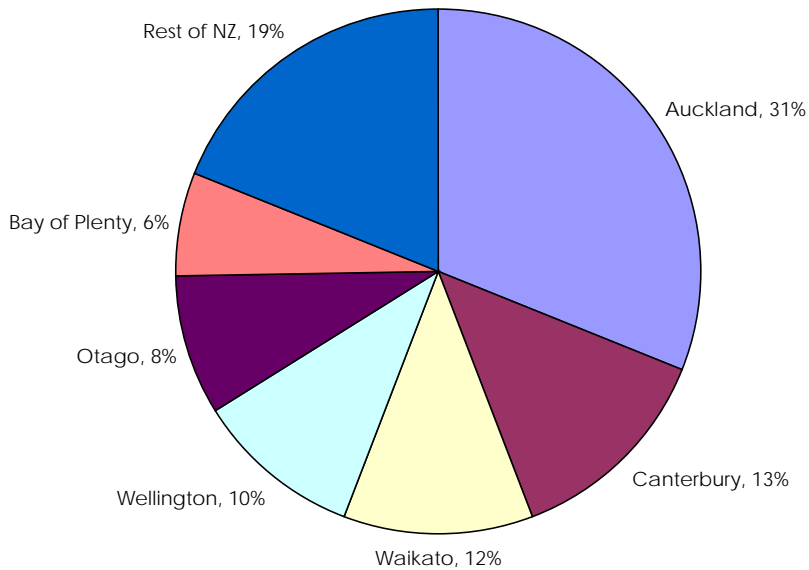
Figure 7 shows the growth in all-day ECE capacity, while sessional child-hours have gradually been declining.

Figure 7: National capacity in child-hours, all-day and sessional



Regionally, Auckland has experienced the greatest growth in ECE capacity, accounting for nearly one third of the additional child-hours since 2001 (see Figure 8). Other high-growth regions (in terms of share of additional national capacity) included Canterbury, Waikato, Wellington, Otago and the Bay of Plenty. Overall this result is unsurprising as the greatest growth in capacity has been in the most highly populated centres.

Figure 8: Regional share of additional child-hour capacity since 2001



Another way to consider regional growth is in terms of the percentage growth in child-hour capacity *within* each region. On this basis, the highest growth regions were the West Coast (68 percent growth between 2001-2006), Marlborough (57 percent), Otago and Southland (both 32 percent), Gisborne (21 percent), Canterbury (20 percent) and Auckland (18 percent).

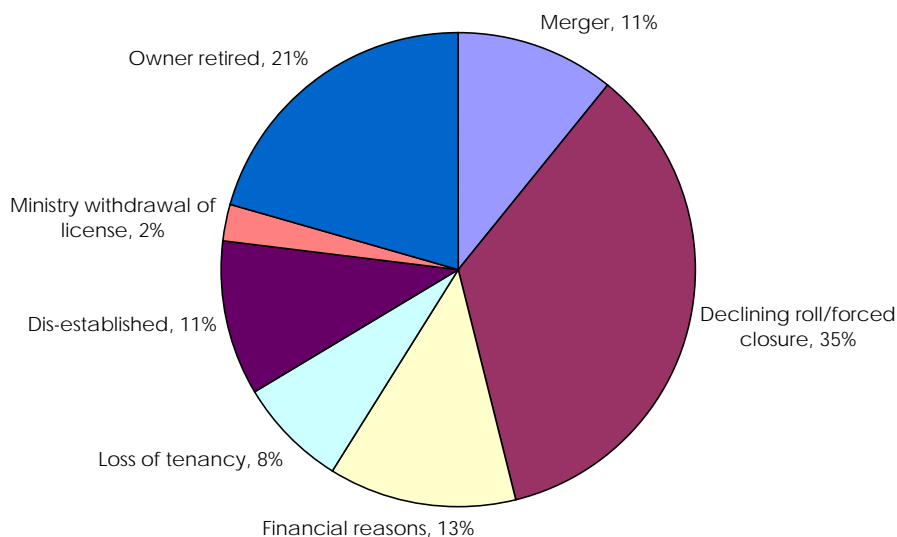
Supply: Service Closures

Trends in the number of service closures each year, bearing in mind the reasons for closures, provides another indicator of changes in sustainability over time. A large number of closures, or an increase in the number of closures, would indicate difficulty sustaining operations within the sector or a sub-group of services.

The following analysis is based on data extracted from the Ministry’s EDUMIS and EdInfo systems, listing those licensed services that have closed and a code indicating the reason for closure. The reason code was taken from EdInfo where available, and from EDUMIS for the remainder. Reason codes that did not represent a decline in the number of services (e.g. change of type, moved premises, never opened) were excluded from the analysis. It is important to note that different offices and different system users may apply different reasons for the same situation. Also, the reasons are not mutually exclusive, which would cause difficulty in inputting and interpretation. Therefore, “reason for closure” data are not rigorous and must be interpreted with caution.

Roughly two percent of ECE services close each year. The most commonly coded reasons for closing are a declining roll or forced closure (these two reasons could not be separated due to the coding method in the database), and retirement of the owner, as shown in Figure 9 below. About one in every eight ECE service closures is attributed directly to financial reasons.

Figure 9: Reason for closure, 2000-2006

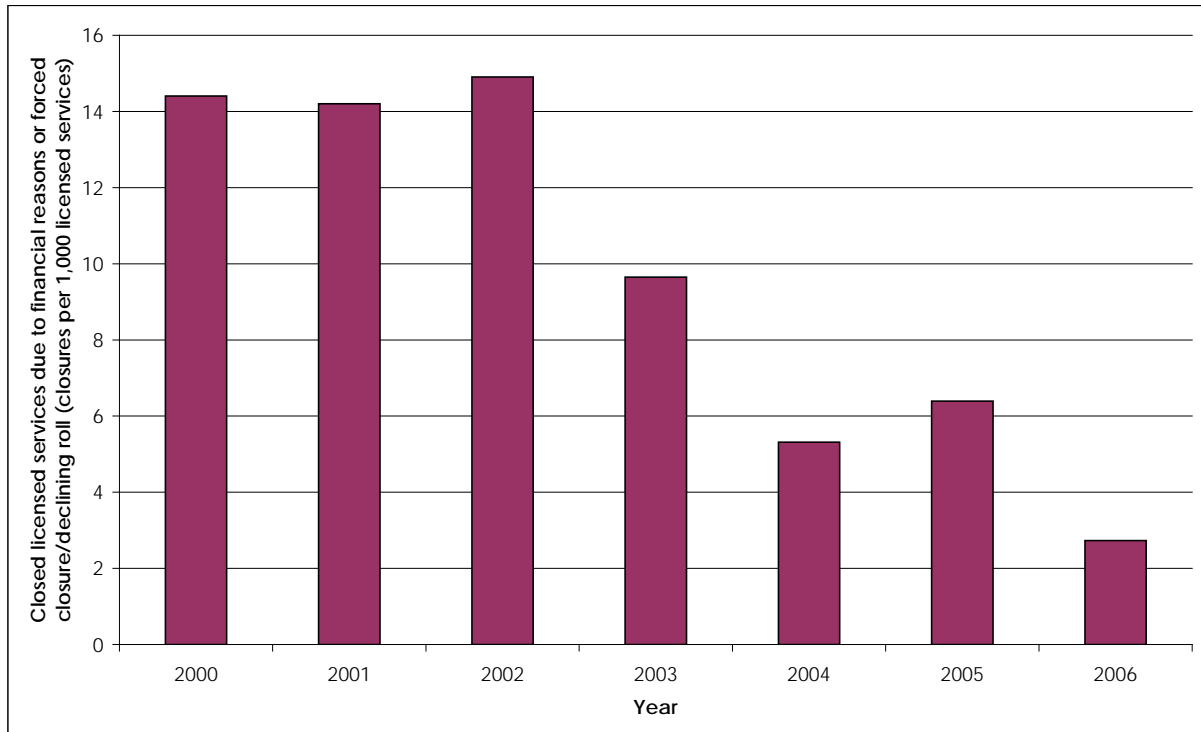


Just under half of all ECE service closures were attributed to broader sustainability factors including financial reasons or declining roll/forced closure.

Overall, the number of service closures coded as being due to financial reasons or forced closure/declining roll has decreased in recent years (Figure 10). Approximately 14-15 services per 1,000 were coded as having

closed for these reasons each year during 2000-2002, while the recorded rate during 2004-2006 was in the range of 3-6 per 1,000.

Figure 10: Service closures in New Zealand, 2001-2005, among services operating in 2001



These relatively small numbers of service closures provide an indication of the overall sustainability of ECE services, and suggest that of those services that may be assessed as being at risk on the basis of ratios such as surplus/deficit or working capital, only a very small minority are actually unable to continue operating. The small numbers also suggest that service closures may be attributable to individual services' circumstances and not to any systemic problem with regard to the sustainability of ECE provision.

Moreover, the reduction in financial/roll-related service closures since the implementation of the Strategic Plan is a positive indication of improving sustainability in the sector but must be interpreted with caution due to the relatively short time series.

A 2004 study in the Canadian province of British Columbia found that despite modest growth in the number of licensed providers during the four year period from 1997 to 2001, about one-third of centre-based services and half of the home-based services that operated in 1997 had closed by 2001. Not all providers in BC received Government funding, and the receipt of Government funding turned out to be an important predictor of sustainability. The study noted that centres that received provincial wage assistance and cared for children from families who had provincial fee assistance were less likely to close than those without public funding, and argued that "the amount of after-tax income the average family can afford to allocate for child care is the rate-limiting step in this market" (Kershaw, Forer, and Goelman, 2004).

In contrast, analysis of ECE service closures in New Zealand over a more recent four-year period (2001-2005) shows that ECE services in this country are very much more sustainable than those in the Canadian study. For example, Table 6 shows that of the ECSs that were operating in 2001, eight percent had closed by 2005, and

only three percent had closed for financial or declining roll related reasons. This analysis reinforces the impression of an overall sustainable ECE sector in New Zealand. The specific factors behind the slightly higher rates of closure for financial reasons among kōhanga reo and home-based services are unclear.

Table 6: Service closures in New Zealand, 2001-2005, among services operating in 2001

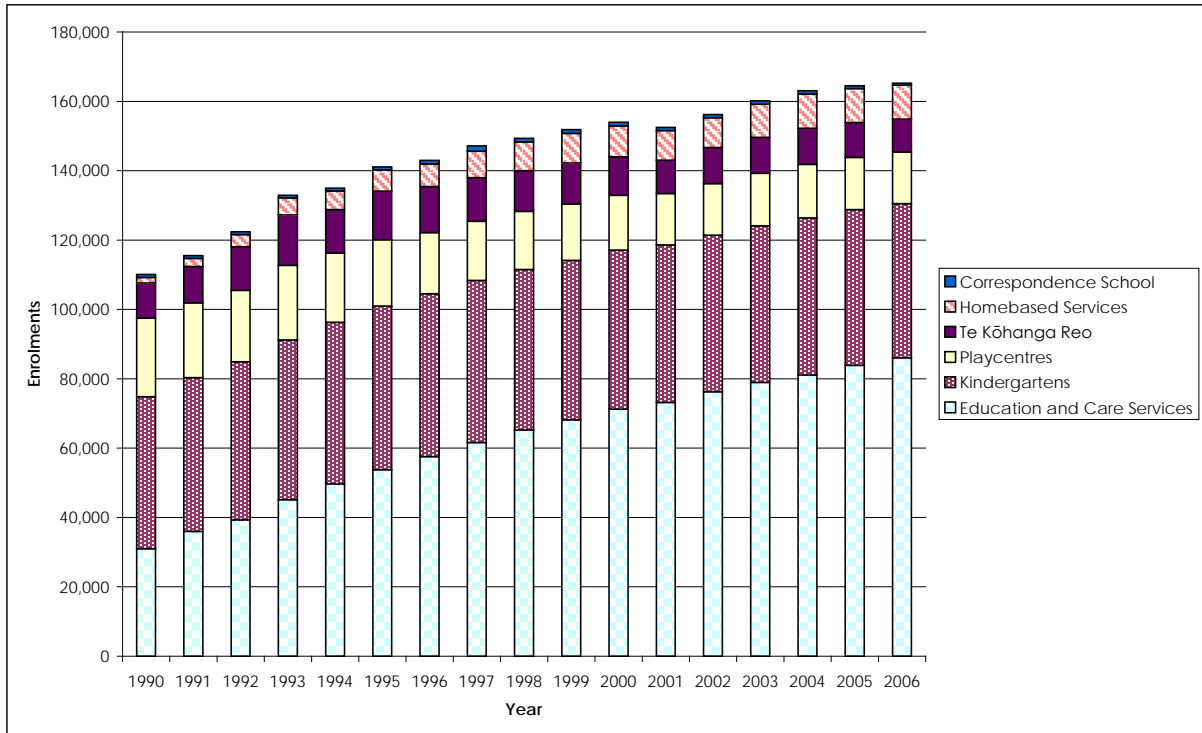
	Total Services in 2001	Closed by 2005 (all reasons)	% Closed (all reasons)	Closed by 2005 (financial/roll related)	% Closed (financial/roll related)
Education & Care	1558	132	8%	47	3%
Home-based	184	49	27%	13	7%
Kindergarten	603	3	0.5%	0	0%
Playcentre	503	35	7%	20	4%
Kōhanga Reo	562	57	10%	34	6%

Demand/Participation: Enrolments

Increasing participation in ECE is one of the key goals of the Strategic Plan. Participation is already relatively high and has been growing for some years, and the Strategic Plan focuses on lifting participation in regions and population groups where participation is low (e.g. low socio-economic areas). As established in chapter 1, participation and sustainability are co-dependent for ECE services.

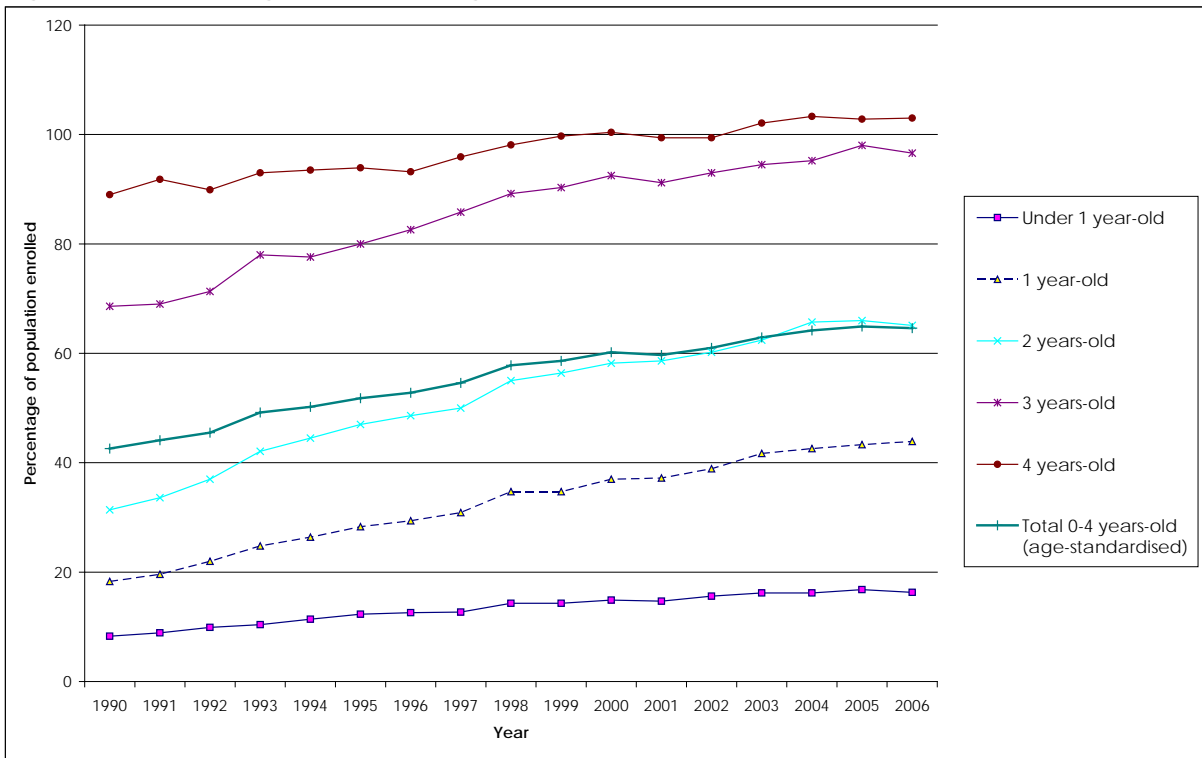
Publicly available data from Education Counts, presented in Figures 11 and 12, show the substantial increase in enrolments in ECE since 1990. The highest increases have been for children aged three, for whom enrolment rates have more than doubled, perhaps reflecting increased labour force participation during the same period. Most of the additional enrolments have been in ECSs, with marked growth also occurring in the uptake of home-based ECE. This may be attributable to the diversity of format and flexibility offered by these services which suit working parents. Enrolments in kindergartens and kōhanga reo have remained fairly static and enrolments in playcentres have decreased.

Figure 11: Enrolments by ECE type



Source: www.educationcounts.edcentre.govt.nz

Figure 12: Percentage of children aged 0-4 enrolled in ECE

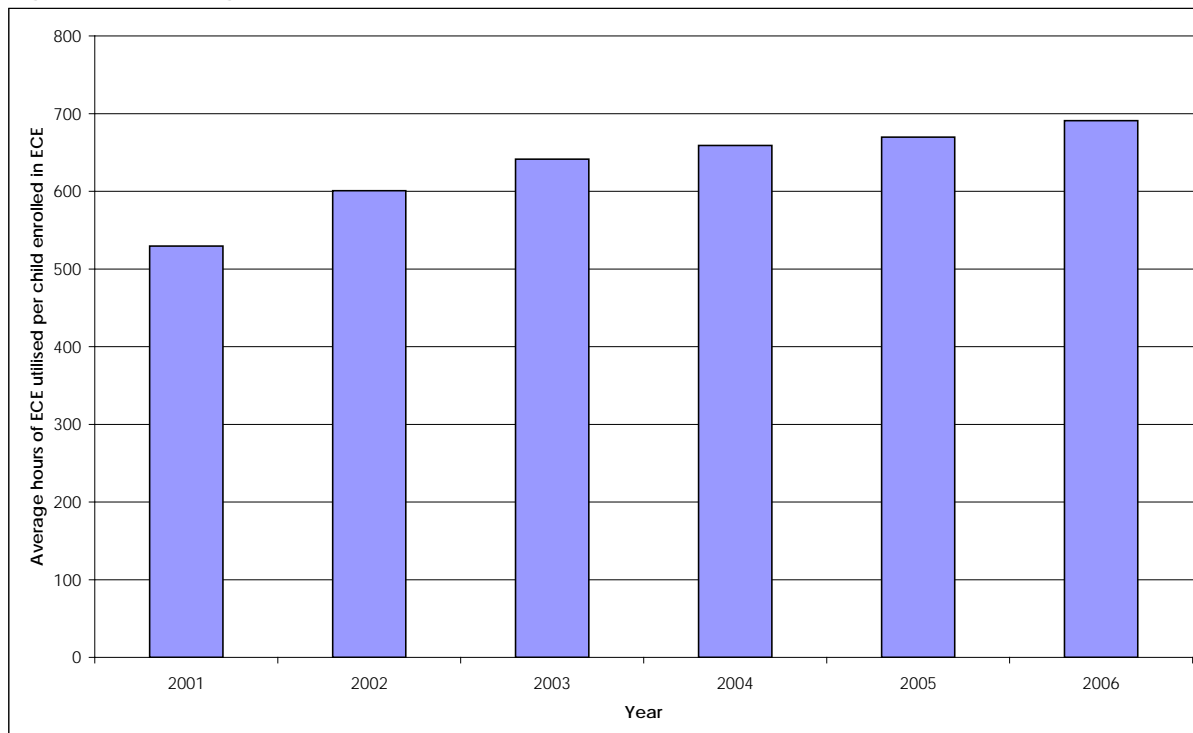


Source: www.educationcounts.edcentre.govt.nz. Percentages in the graph above may be over-estimates due to some children being enrolled in more than one ECE service. As a result, the apparent enrolment rate for 4 year olds exceeds 100 percent.

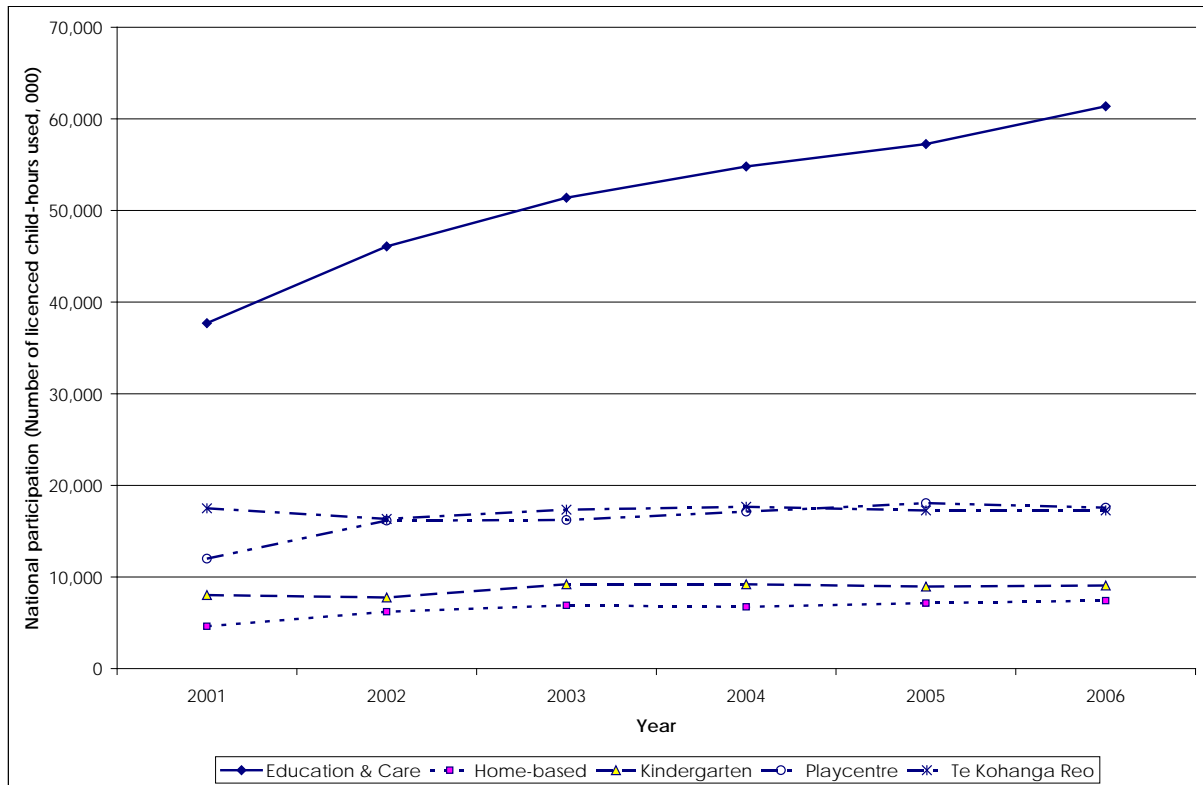
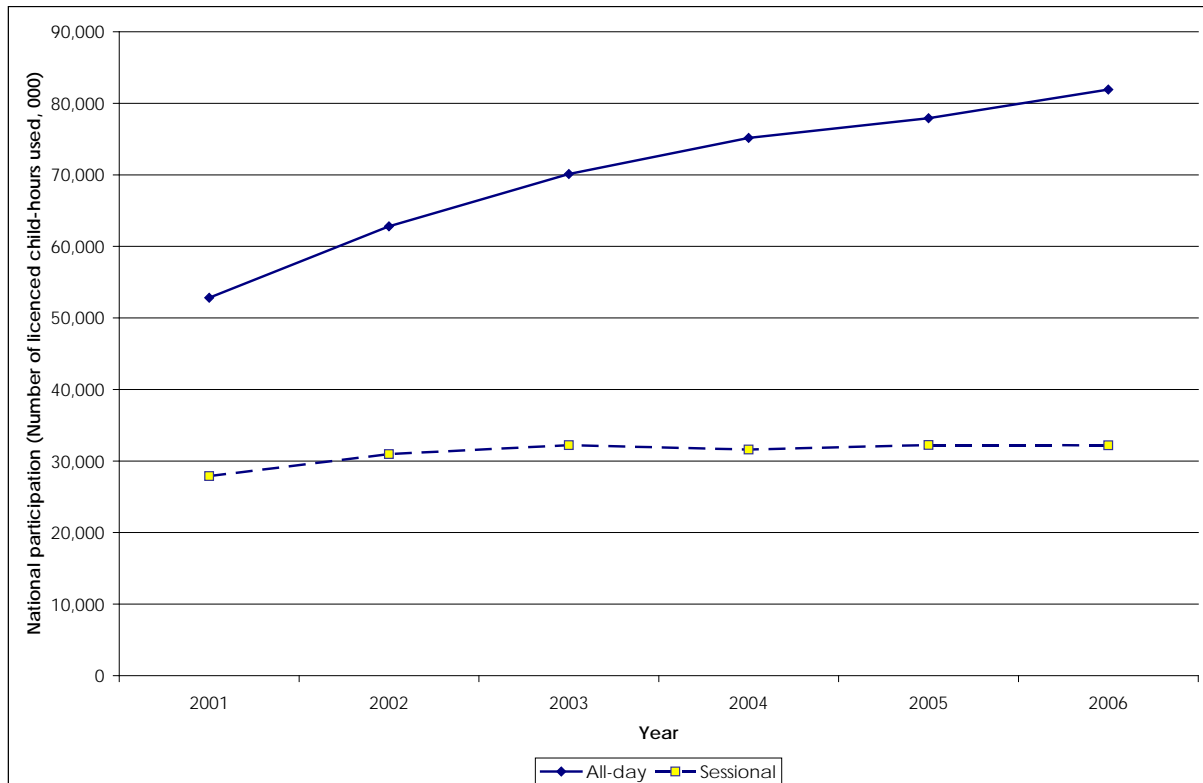
Demand/Participation: Hours of ECE Utilised

Not only have the numbers of children enrolled in ECE been increasing, but so has the average number of hours each child spends in ECE. Figure 13 shows the growth in average hours per annum utilised per enrolled child. The following analysis is based on funded child-hours data from the Ministry of Education so understates total hours utilised which include unfunded hours where children spend more than 6 hours per day or 30 hours per week in ECE.

Figure 13: Average hours utilised per child enrolled in ECE per year (funded hours only)



Mirroring the trends already observed, the growth in utilisation of ECE has been in ECSs and, in particular, those offering all-day ECE, as demonstrated in the following two graphs (Figures 14 and 15). The differential occupancy levels between service types (Figure 16) provides further context to these graphs.

Figure 14: Child-hours of ECE utilised by ECE type (funded hours only)**Figure 15: Child-hours of ECE utilised, all-day and sessional**

It is unclear from national-level data whether participation has increased among groups of children or in sub-regions where participation has been low. However, the evaluation report of NZCER and TKRNT stated that

participation in the eight localities was “good” but not “very good” since some children continued to miss out on ECE participation before school entry (Mitchell and Hodgen, 2008).

Occupancy

The occupancy of an ECE service (i.e. the ratio of utilised child-hours to maximum available child-hours) is an indicator of its cost-efficiency. Services have fixed costs that they need to cover regardless of how full they are. If occupancy is increased, the fixed costs per child-hour are reduced. As most of the funding received by ECE services (from the Government and from families/whānau) is paid per child-hour, higher occupancy generates a higher overall income, and a healthier ratio of income to costs. Conversely, low-occupancy services are at greater financial risk as they are less likely to be able to cover their operating costs.

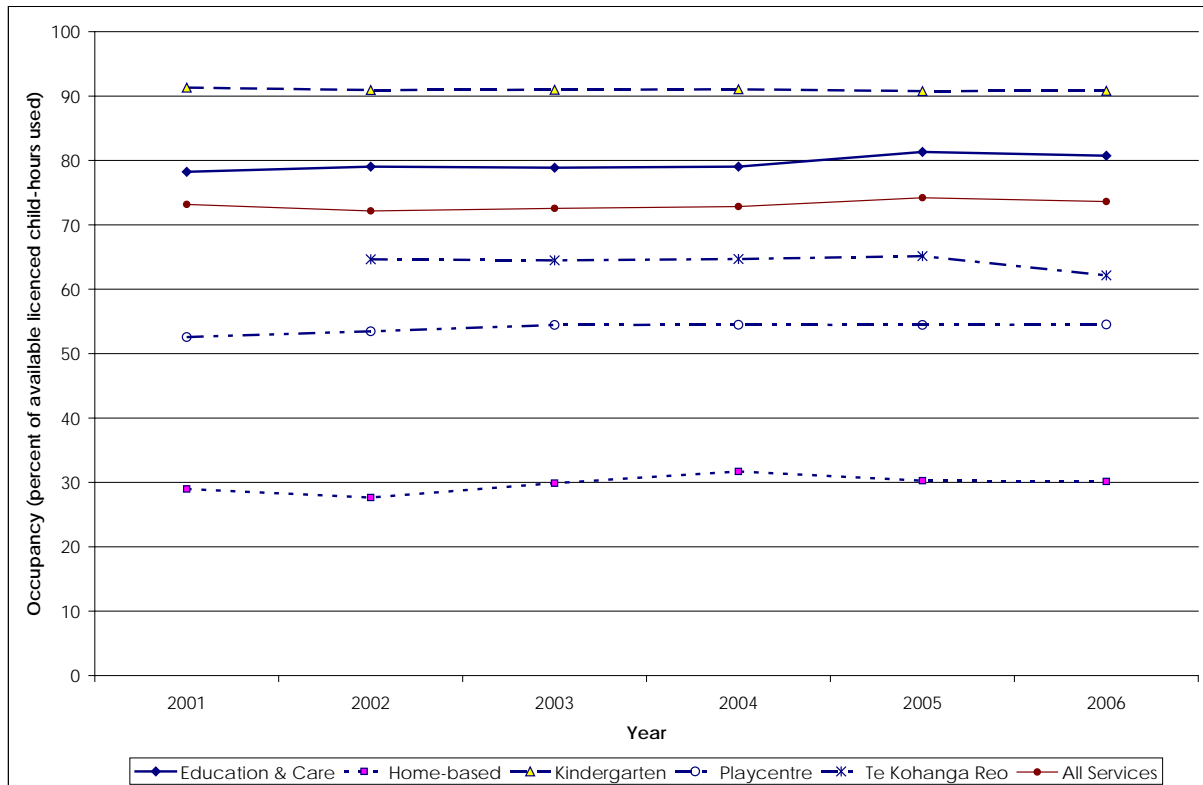
Ministry analysis has found that services that closed had a lower than average occupancy rate compared to other similar service types. The ECE Strategic Plan Monitoring Framework therefore monitors the proportion of services with low occupancy rates over time as a sustainability indicator.⁵

Figure 16 shows occupancy ratios by service type. The different ratios for each type reflect service characteristics. For example, kindergarten sessions are almost fully utilised whereas other service types have lower occupancy levels. Maximum capacity is estimated on the basis of the licensed maximum number of places, whereas many services choose to cap enrolments at less than the licensed maximum. As a result, occupancy of all-day services is probably under-estimated in this graph.

Low occupancy rates for home-based services do not necessarily indicate poor sustainability. For home-based services, licensed places relate to the network capacity, not to individual homes/carers. Costs for home-based services are more flexible than for other service types, as they can more readily increase or reduce the number of homes/carers providing the service in response to changes in demand.

The graph shows fairly steady occupancy levels within each service type, apart from a slight drop in kōhanga reo occupancy between 2005 and 2006 and slight fluctuation for home-based ECE. The graph demonstrates that the steady growth in supply has balanced growth in demand throughout this period.

⁵ The indicators used in the Monitoring Framework are provisional and Monitoring Framework reports are draft. Further development is taking place on the Monitoring Framework

Figure 16: Occupancy by ECE type

Ministry analysis found that the proportion of licensed ECE services with low occupancy rates has declined every year since 2001. In 2005, 8.1 percent of licensed services had occupancy rates which the Ministry defined as “low” (the thresholds used in the Ministry’s initial analysis were 50 percent occupancy for all-day ECS; 40 percent for sessional ECS, kindergarten, kōhanga reo; 30 percent for playcentre; and 10 percent for home-based), compared to 10.8 percent of services in 2001.

These trends varied by ECE type in ways that are broadly consistent with movement in other indicators. For ECSs and home-based service, the proportion with low occupancy has declined since 2001. The proportion of low-occupancy playcentres has remained stable. The proportion of kōhanga reo with low occupancy has increased since 2001.

The 2006 operating cost survey also examined occupancy, asking centres “how full” their service was. Services indicated their occupancy by selecting from one of 11 ranges (e.g. 0-9 percent, 10-19 percent, etc), with a separate category for services operating at 100 percent occupancy. The responses are therefore indicative only as they are based on centres’ subjective judgements. They are also for one time period only so do not permit trend analysis. However, the data is useful in providing additional detail with regard to the way occupancy varies by service type or circumstances.

The survey found a strong relationship between urban/rural profile and occupancy, with centres in urban areas of any size tending to operate close to capacity (75 percent of services in these areas reported at least 80 percent occupancy) and centres in rural areas reporting far lower utilisation (with the majority of rural services reporting operating at 50-79 percent of capacity).

Occupancy also appeared to be related to the percentage of registered teachers at a service. For both all-day and sessional services, centres with a higher percentage of registered teachers (so receiving higher funding rates) were more likely to be operating close to capacity, suggesting a higher demand for services with this particular quality feature.

Operating Surplus/Deficit

The operating surplus/deficit is the net difference between an ECE service's revenues and its expenditures during a financial year. This is often expressed as a percentage of income. The extent of an operating surplus/deficit is one measure of financial sustainability. A service that is able to maintain an operating surplus each year is more likely to be able to sustain itself over the longer term. Conversely, a deficit is a negative indicator of sustainability, especially if it continues over multiple years.

Ministry data from the provisional ECE Strategic Plan Monitoring Framework were analysed to identify the proportions of ECE services with an operating surplus/deficit for different types of ECE service. Only community-based services are included due to private services not being required to return their full income and expenses details. The data are for the period 2001-2005. As the new funding system came into effect from April 2005 the data is of limited value in identifying impacts due to the Strategic Plan. However, the graphs do provide an indication of the financial environment in which the Strategic Plan was implemented, and provide a backdrop for future monitoring and evaluation.

Figure 17 shows the percentage of services with an operating surplus or zero balance from 2001-2005 (services that did not provide operating balance details are excluded from the denominator). Roughly two-thirds of community-based ECSs have run an operating surplus or zero balance each year during this period. There is a slight suggestion that the proportion of community-based ECSs running an operating surplus or zero balance increased in 2005.

Although roughly half of all playcentres have run a surplus or zero balance in the years prior to 2005, the proportion increased substantially to 64 percent in 2005. It is too early to tell whether this represents a trend or a fluctuation.

The apparent decline in the percentage of kindergartens running a surplus or zero balance is not borne out in the deficit data shown in Figure 17 below. The apparent decline is an artefact of some kindergartens being excluded from 2005 figures and does not represent an actual trend.

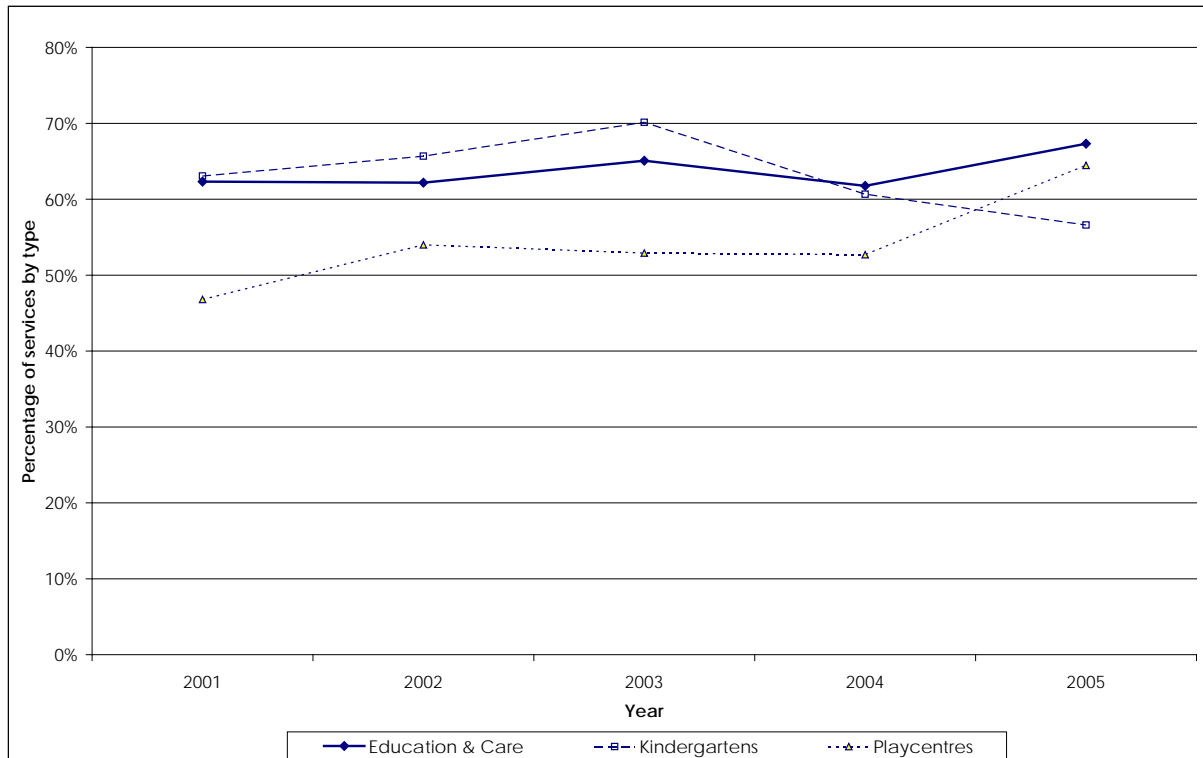
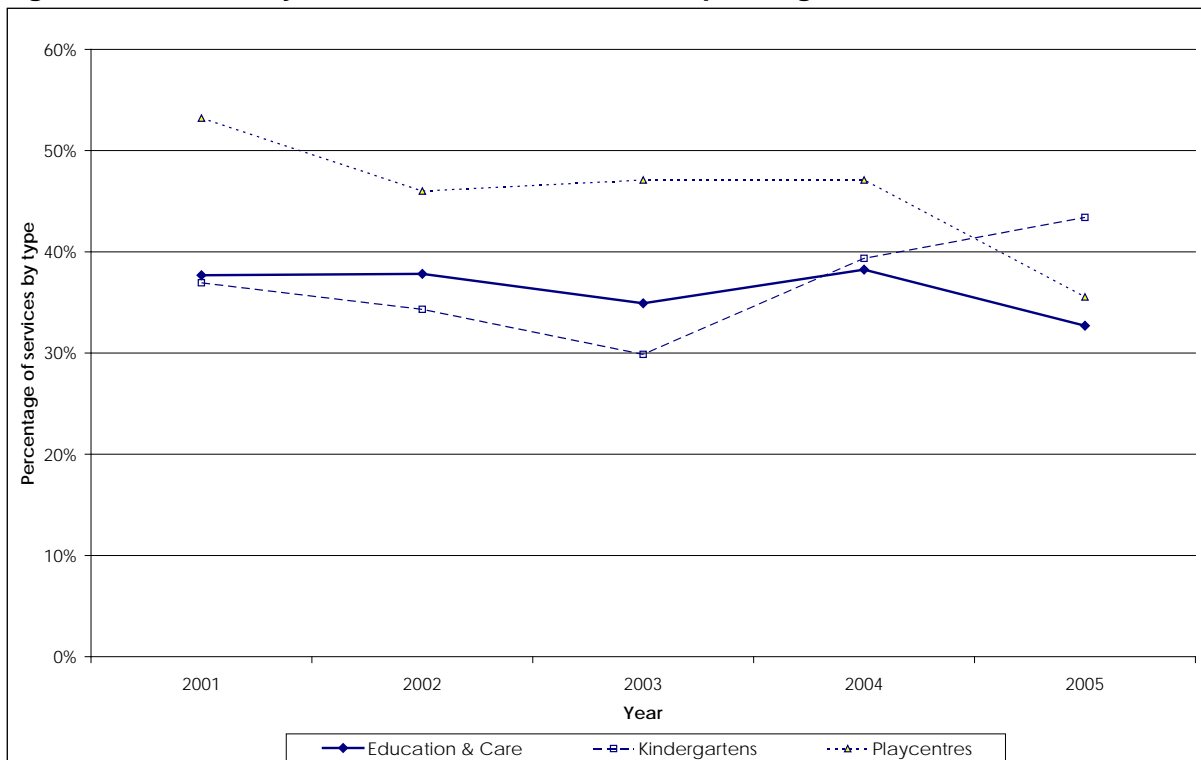
Figure 17: Community-based ECE services with an operating surplus or zero balance

Figure 18 shows the proportion of community-based ECE services with an operating deficit. It is notable that the proportion of services with an operating deficit appears to have reduced from 2004 to 2005 for playcentres and ECSs. However, it is too early to say whether this is a trend or a fluctuation.

The number of kindergartens running a deficit each year appears to sit between 30-40 percent. The 2005 result for kindergartens should be interpreted with caution due to the omission of data from a large kindergarten association.

The umbrella structure of kindergarten and playcentre associations provides the opportunity for associations to pool resources to buffer against large or unforeseen expenses, which reduces the risk to individual kindergartens and playcentres associated with running an operating deficit, provided working capital is positive for the association as a whole.

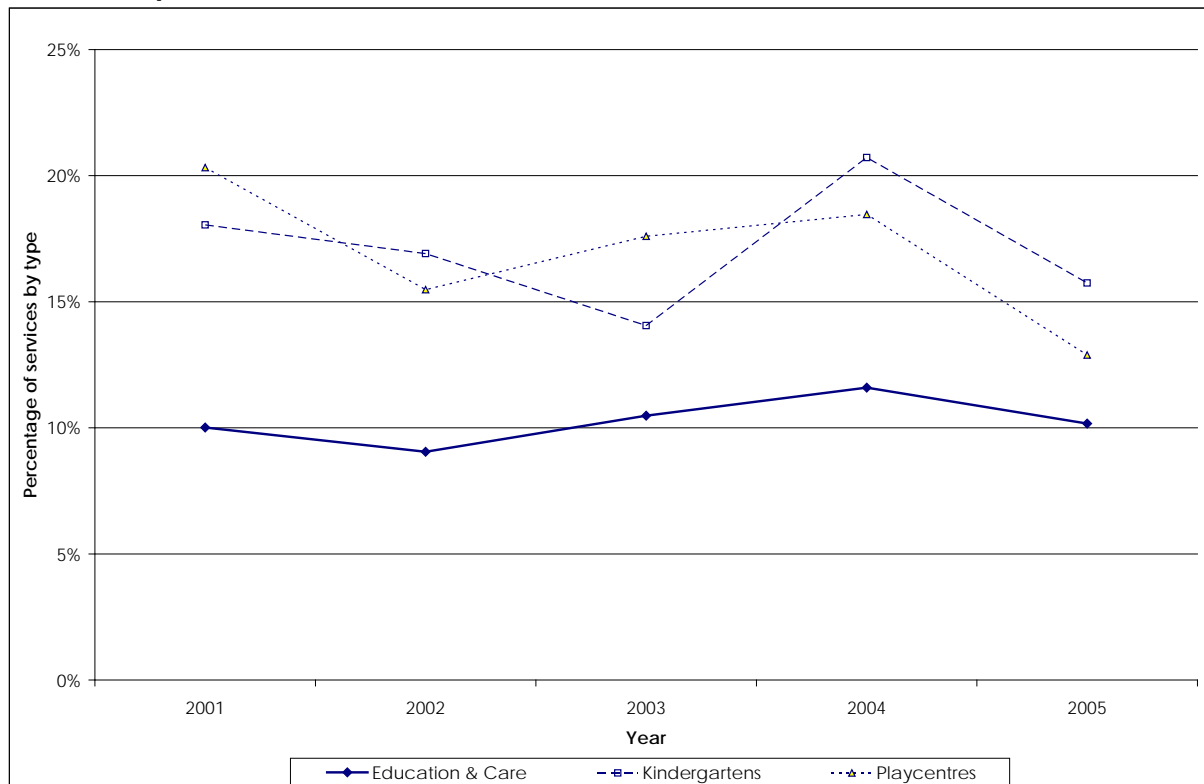
Figure 18: Community-based ECE services with an operating deficit

Although an operating deficit is an indicator of potential financial vulnerability, the vast majority of services that ran deficits remained in operation. Therefore, the risk to sustainability of an individual service of running a small, one-off deficit must be relatively slight. The following two graphs explore trends in the number of services with deficits that placed them at greater financial risk, either due to the size of the deficit or because deficits occurred across multiple years.

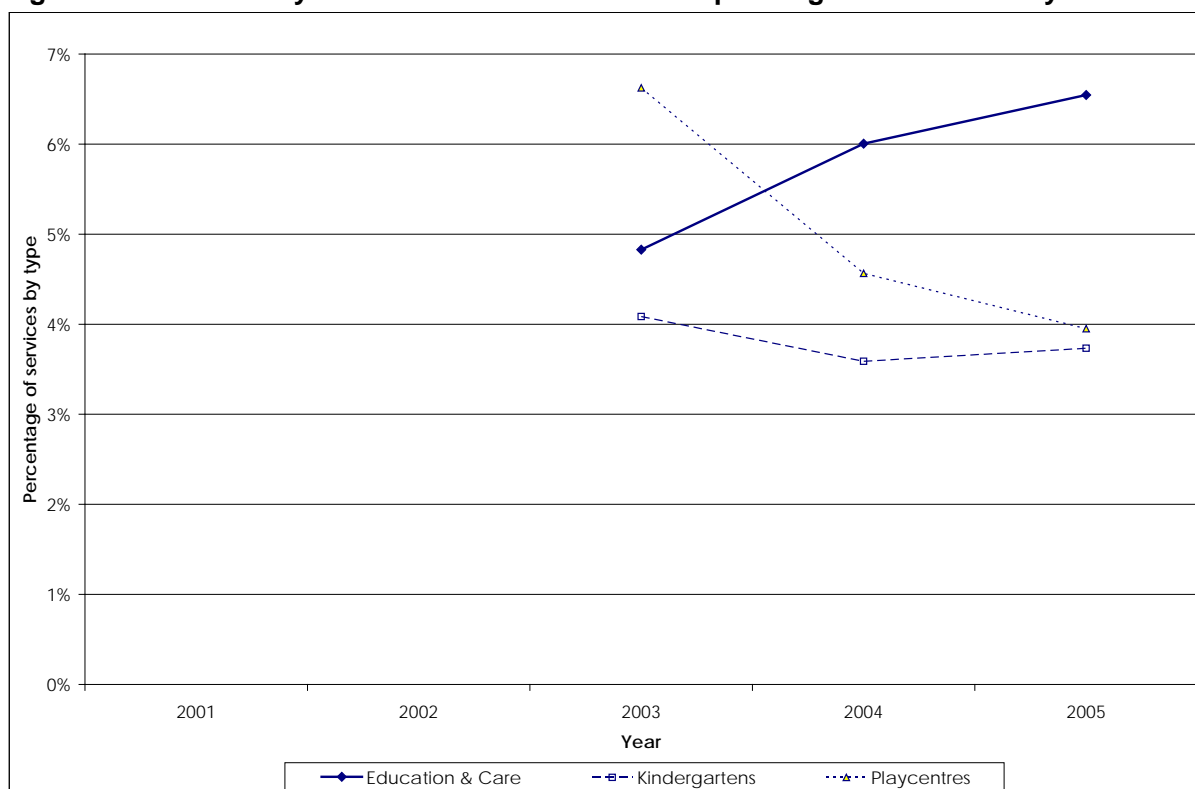
As a general principle, a larger deficit would indicate a greater threat to sustainability. Figure 19 below shows the proportion of services with a deficit greater than ten percent of income. Around ten percent of ECSs, and roughly 15-20 percent of kindergartens and playcentres, had a deficit greater than this threshold.

Although the use of a ten percent threshold is arbitrary, it provides two insights which are relevant to the evaluation: Firstly, no strong shifts are evident in the proportion of services running a 'large' deficit (although, consistent with the previous graph, all three ECE service types showed a reduction between 2004 and 2005). Secondly, around two-thirds of ECS and playcentre deficits, and around half of kindergarten deficits, were ten percent of the service's annual income or less and were therefore relatively 'small'.

Figure 19: Community-based ECE services with an operating deficit of greater than 10 percent of income



As a general principle, services that run deficits for several years in a row are likely to be at greater financial risk than services that run a one-off or occasional deficit. Figure 20 shows the proportion of services that ran a deficit for three years in a row. For example, the data for 2003 shows the proportion of services that ran three consecutive deficits in 2001, 2002 and 2003. Although the graph cannot be relied upon for trend data due to the short time period covered, it provides an indication that 3.5-6.5 percent of services ran three consecutive deficits during this time.

Figure 20: Community-based ECE services with an operating deficit for three years in a row

In addition to the national data analysed above, analysis was also conducted of the surplus/deficit positions of locality-based case studies in the 2004 and 2006 treasurer surveys. Twenty-five case studies provided reliable expenditure and revenue data for both time periods, permitting analysis of surplus/deficit results and changes in these. The results are summarised in Table 7 below. In 2004, 20 of these services ran a surplus and five ran a deficit. In 2006, 15 ran a surplus and 10 ran a deficit. Importantly, 13 services ran a surplus in both years whereas none of the 25 services ran a deficit in both years.

Table 7: Case study surpluses/deficits

	2004	2006	Both years
Surpluses	20	15	13
Deficits	5	10	0
Deficit greater than 10% of income	1	5	0

With regard to the size of the surplus/deficit, the financial position improved (i.e. larger surplus or smaller deficit) between the two periods for 11 services and worsened (i.e. smaller surplus or larger deficit) for 14.

The small number of case studies and time periods precludes any meaningful trend analysis of case study data. However, the results highlight the fluctuating nature of year-end positions for ECE services.

In summary, the analysis of operating surpluses/deficits suggests that the year-end financial positions of community-based ECSs as a population (and the fluctuating nature of these for individual services) have not changed greatly since the introduction of the Strategic Plan and the new funding system. The slight suggestion

of a reduction in the number of ECSs running a deficit between 2004 and 2005 is encouraging but requires further monitoring to establish whether this is an ongoing trend. This indicator is not representative of the ECE sector as a whole. It excludes services that are licence-exempt, privately owned, and kōhanga reo.

Working Capital Ratio

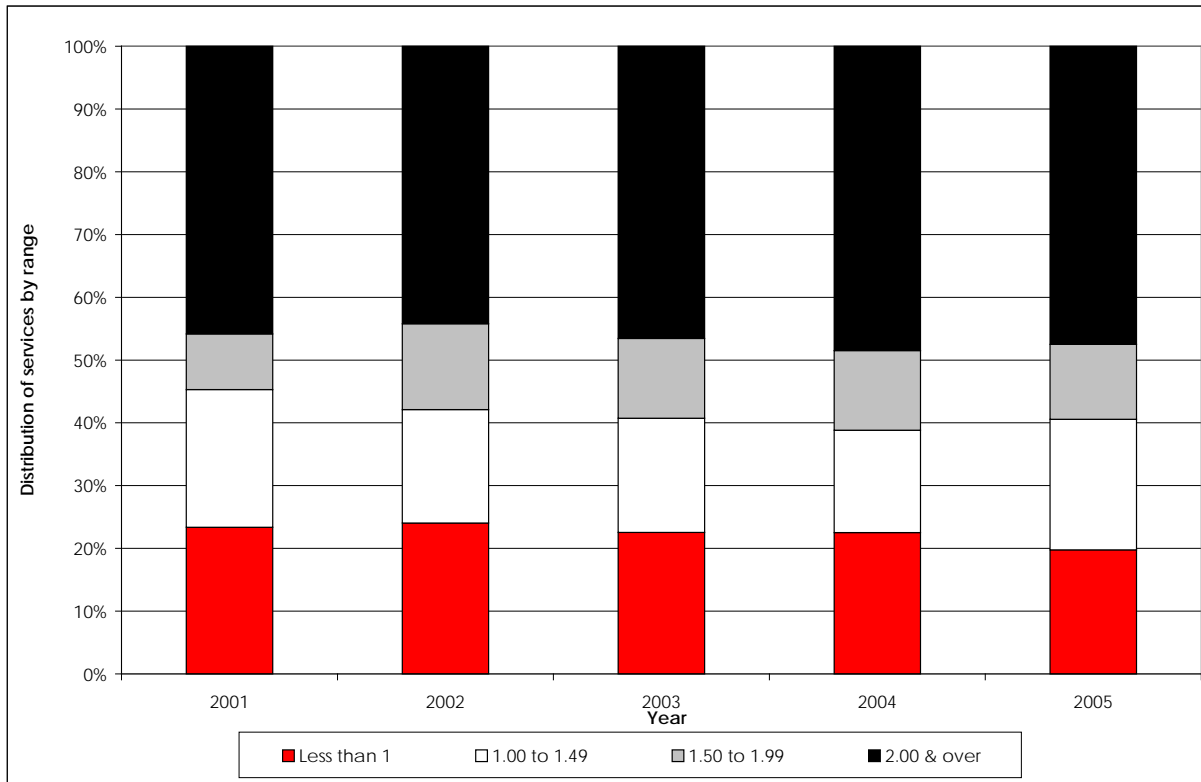
Working capital represents the financial reserves held by ECE services, which provide a buffer for expenses that cannot be anticipated, or if revenues temporarily and unexpectedly fall.

The working capital ratio is the ratio of a service's current assets divided by its current liabilities at the end of a financial year. A ratio of less than 1.0 means that the service has more current liabilities than current assets and is therefore unable to meet its short-term commitments. The use of this threshold is consistent with the Tertiary Advisory Monitoring Unit which recommends a minimum ratio of 1.0 for tertiary education institutions. Ideally, working capital ratios should be higher than 1.0 as all services need sufficient working capital to manage their expenses through the year and meet unforeseen expenses (Tertiary Education Commission, 2007).

Current assets are assets that can be readily liquidated, and include items such as cash on hand at the bank, accounts receivable, GST refunds due, investments maturing within one year, and any property currently listed for sale. Current liabilities represent a service's real and potential financial obligations to other parties, including items such as accounts payable, income received in advance, loans and/or leases payable within 12 months, and provisions for cyclical maintenance payable within 12 months (Wylie and King, 2004). The working capital ratio therefore does not take into account capital commitments likely to eventuate over the year, external financing arrangements pending, or long-term investments which are readily liquefiable (Tertiary Education Commission, 2007).

Figure 21 (sourced from the Ministry of Education) shows the distribution of working capital ratios across ECSs for the period 2001-2005. In aggregate, working capital ratios have not changed markedly for community-based ECSs since the implementation of the Strategic Plan. However, the proportion of services with working capital of less than 1.0 has reduced gradually since 2002. The majority of ECSs are in a relatively strong financial position in terms of their working capital, with 60 percent of services having assets equal to or greater than 1.5 times liabilities.

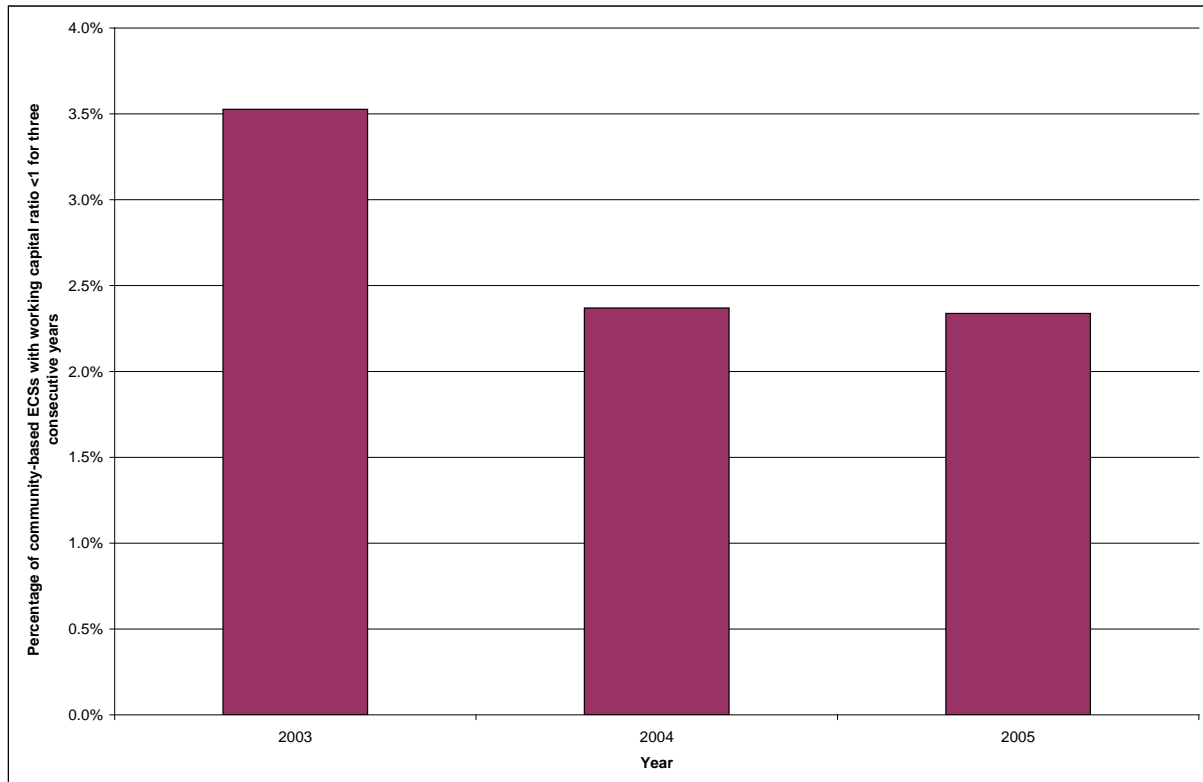
Figure 21: Proportion of community-based ECSs (including casual ECSs) by working capital ratio range



Source: Ministry of Education Demographic and Statistical Analysis Unit.

Although it is less than ideal for around one fifth of community-based ECSs to have liabilities greater than assets in any given year, it is also important to note that the working capital ratio did not constantly remain below 1.0 in the vast majority of cases. As Figure 22 shows, less than 2.5 percent of ECSs had greater liabilities than assets for the three consecutive years leading up to and including 2004 and 2005. This represents an improvement from the three year period ending 2003, where 3.5 percent of ECSs were in this position.

Figure 22: Community-based ECSs with a working capital ratio of less than 1.0 for three years in a row



Only community-based licensed services are included in the graphs above, as unlicensed services are not required to return their financial statements to the Ministry and private licensed services are only required to furnish information on their income from the Ministry and their wages expenses.

Data for home-based ECE have not been graphed because one home-based organisation encompassing more than 80 percent of services has a disproportionate effect on the indicator, making it highly volatile. However, the results suggest that if this organisation were excluded, then fewer than ten percent of home-based services would have a working capital ratio less than 1.0 each year.

Kindergarten and playcentre data for this indicator have not been included because not all associations reported data to the Ministry each year, causing volatility in the indicator. It should also be noted that the umbrella structure of kindergarten and playcentre associations provides a buffer against large or unforeseen expenses, which reduces the risks to individual services associated with having negative working capital, provided working capital is positive for the association as a whole. Working capital data were not available for Kōhanga Reo.

With regard to the locality-based case studies, the treasurer survey did not collect data on working capital or current assets and liabilities. However, it did seek information about the cash reserves and debt levels maintained by each service. A total of 19 services provided useable data on these questions in relation to both periods. Of these, cash reserves had increased for seven services and decreased for 12. Only four case studies reported having any debts, and these had increased for two and decreased for two between 2004 and 2006. These debts represented between 5-26 percent of the annual incomes of the four services.

In summary, the proportion of community-based ECSs with liabilities in excess of assets has declined marginally since 2002, and only a small minority of these services had liabilities in excess of assets across multiple years. Therefore it can be concluded on the basis of available data that the Strategic Plan and the new funding system have not impacted on this indicator. It needs to be noted that this indicator is not representative of ECE services as a whole as adequate working capital data was only available for community-based ECSs.

Cashflow Management

Managing cashflow (i.e. ensuring that there is sufficient income to cover costs throughout the year) is an important challenge for any business or non-profit organisation. A year-end surplus indicates that income exceeded costs over a 12-month period but does not necessarily mean that the service carried sufficient funds at all stages throughout the year.

The treasurer survey asked case studies a series of questions about cashflow. A total of 29 services responded to these questions. Of these, 23 indicated that they managed their finances carefully but did not experience cashflow difficulties during the year. A smaller number of services (six in 2004 and 7 in 2006) indicated that they sometimes had to delay expenditures (such as bill payments) due to a shortfall in income.

The reasons given by services for cashflow difficulties included the ECE funding subsidy payment mechanism (which makes payments three times a year whereas costs are incurred more or less continuously every month) – 7 services; Low enrolments/occupancy – 6 services; Cost increases – 2 services; and poor financial management – 2 services.

In the 2006 survey, services were also asked whether cashflow challenges had become better, worse or remained the same, and 22 services answered this question. Responses were fairly evenly divided between these three categories, with nine respondents saying their cashflow had improved, seven saying it had become more difficult to manage, and six saying this had not changed.

NZCER/TKRNT Indicator of Sustainability

The evaluation of Strategic Plan outcomes conducted by NZCER and TKRNT (Mitchell and Hodgen, 2008) assessed sustainability of the locality-based case studies according to dimensions of enrolment sustainability (whether there were no or few spare places, and children remained until they went to school); staffing sustainability (whether management found it easy to meet regulated staffing requirements, including relievers, and did not predict future staffing problems); and financial sustainability (whether management rated services as financially stable).

A rubric was developed which described three levels of sustainability, rated as “good”, “adequate” or “poor”. Each ECE service was rated against the three dimensions (enrolment, staffing and financial) at baseline and at follow up, against the criteria, ratings and weightings (according to importance) shown in Table 8. To derive a score for the three dimensions, the weighted mean of the ratings for the items was calculated by (total of each rating x its weight)/(total weights). The overall rating was formed by combining the scores (Mitchell and Hodgen, 2008).

Overall sustainability was rated as “good”, which can be interpreted to mean that on average, services were doing reasonably well on these sustainability indicators combined. Overall, sustainability did not change from 2004 to 2006.

The main sustainability problems experienced by the case studies were staffing related. In relation to Strategic Plan actions, the findings suggested that overall, these actions, which have required much change for ECE services, have not affected sustainability. A Pasifika service that was financially unsustainable and threatened with closure has been supported by the Ministry and is still operating.

Table 8: NZCER/TKRNT rubric for sustainability

Rating	Description	Numerical rating	Weighting
Good	Enrolments	3	2
	No places not currently used	3	3
	Most children stay until they go to school	3	3
	Staffing	3	3
	Service has enough teacher/educators to meet government requirements	3	2
	Having sufficient qualified teacher/educators in future will not be problematic	3	3
	Qualified teachers are always used to cover for absences		
Financial			
Service is financially stable			
Adequate	Enrolments	2	2
	Child places not currently used for a few days/sessions	2	3
	About half children leave before they go to school	2	3
	Staffing	2	3
	Service has enough teacher/educators to meet government requirements, but sometimes difficult	2	2
	Predicts minor problems in meeting qualified teacher/educator requirements in future	2	3
	Qualified teachers are mostly/sometimes used to cover for absences		
Financial			
Service is just managing financially			
Poor	Enrolments	1	2
	Child places not currently used for most or all days/sessions	1	3
	Most children leave before they go to school	1	3
	Staffing	1	3
	Service has problems in meeting government staffing requirements	1	2
	Having sufficient qualified teacher/educators in future will be problematic	1	3
	Qualified teachers are rarely/never used to cover for absences		
Financial			
Service is struggling financially			

Source: Mitchell and Hodgen, 2008.

Summary

The qualitative and quantitative findings above suggest that the ECE sector as a whole is sustainable, and perhaps becoming gradually more so. The most striking observation is the stability in the indicators of capacity, participation, occupancy, operating surplus/deficit, and working capital throughout a time period of several years pre and post introduction of the Strategic Plan. Some indicators also showed a suggestion of a recent improvement in sustainability, but a longer time series is required in order to establish whether this is a trend.

The stability in these indicators at a systemic level masks the fact that the financial positions of individual services can fluctuate markedly over time. Despite this variability, however, very few ECE services close for financial reasons, and this further supports the impression of a sustainable ECE sector.

ECSs have shown the greatest overall changes, including substantial increases in capacity and participation, as well as shifts in quality (employment of registered teachers) with attendant increases in revenues and costs. Throughout this period, however, indicators of occupancy, operating surplus/deficit and working capital have remained relatively stable or improved.

The overall findings are consistent with the Ministry's provisional ECE Monitoring Framework finding that the majority of ECE services in NZ are operating at a sustainable level,⁶ and with the NZCER/TKRNT research which found sustainability was "good" and did not change for the locality-based case studies between 2004 and 2006. Sector stakeholders generally considered that the sustainability of ECE services had not changed appreciably with the implementation of the Strategic Plan and the new funding system.

Is the Funding System Having the Intended Effects?

Among the central aims of the new funding system is the intent that:

- Services do not need to pass on to parents the increased cost of quality improvements under the Strategic Plan (thereby avoiding any adverse impact on participation); and
- Teacher-led services are provided with an incentive to meet teacher registration targets.

The following paragraphs explore whether these intended aims have been fulfilled.

To What Extent Does Additional Government Funding Contribute to Meeting the Additional Costs?

The available data did not provide direct evidence of whether the increased funding through the new ECE funding system is covering cost increases brought about by the Strategic Plan. For example, it was not feasible to analyse changes in the ratio of Government funding to total costs over time, due to timing and classification differences in Ministry data on funding entitlements and in the operating cost surveys. However, the overall percentage increases in Ministry funding and in overall costs between 2005 and 2006 are commensurate as discussed below.

⁶ The indicators used in the Monitoring Framework are provisional and Monitoring Framework reports are draft. Further development is taking place on the Monitoring Framework

The best available quantitative indicators of the success of the funding system in ensuring services do not need to pass cost increases on to parents were Consumers Price Index data on childcare costs. Analysis of these indicators is presented below. Qualitative feedback from stakeholders is also presented.

Consumers Price Index – Childcare Section

Statistics New Zealand publishes indices on the movement of the cost of childcare as part of the CPI series. The provisional ECE Strategic Plan Monitoring Framework examines the affordability of ECE by monitoring movement in this index over time.

Up until March 2005 the index was split into two sub-sections: Kindergartens, and Childcare and crèches (with the latter category comprising ECSs and home-based services). The CPI was re-based in March 2005 to provide a more detailed breakdown which will enable the Ministry to monitor the movement of prices for ECSs, kindergarten and home-based services as well as some regional, operational structure, age and hours of attendance breakdowns.

Since the introduction of new funding system (1 April 2005), ECS and home based prices increased by 0.3 percent in the first year (ended 31 March 2006) and increased 3.9 percent in the two years to 31 March 2007 (see Table 9).

By comparison, over the same period, the overall CPI increased 3.4 percent to 31 March 2006 and 6.0 percent to 31 March 2007. In the 12 months to 31 March 2006, average hourly earnings increased 5.2 percent (data for 2007 were not yet available at the time of report preparation). Thus, growth in ECE and home-based prices has been less than growth in the general cost of living and in average hourly earnings.

Considering the relative size of the increase in operating costs for ECSs between the 2005 and 2006 operating cost surveys (between 10-20 percent in most bands) and the increase in government expenditure on ECE during this period (around 15 percent) (Ministry of Education, 2006a) the small increase in the CPI childcare section during the same period provides an indication that ECSs have, on average, not passed their operating cost increases on to parents and that ECE may have become more affordable over this period.

It is important to note, however, that CPI childcare section for ECS and home-based includes the impact of the Childcare Subsidy from the December 2005 quarter onwards. The Ministry of Education has advised that in the 12 months from 1 April 2005 to 31 March 2006, ECE fee increases without the Childcare Subsidy impact were 2.6 percent for ECSs and 3.1 percent for home-based services – close to the overall CPI figure for the same period. Thus, the Childcare Subsidy had an important impact on prices paid by parents for ECE.

The impact of Childcare Subsidy on prices paid by parents is likely to be uneven. The magnitude of the impact will depend on the size of the subsidy and its take-up/coverage. Those families who are not receiving the subsidy would face higher ECE price increases on average.

It also needs to be noted that a relatively short period of time has elapsed since the introduction of the new funding system, and further monitoring over time will be necessary to determine the longer term success of the funding system in meeting cost increases from the Strategic Plan, including future increases associated with regulatory changes.

Over the same two-year period, kindergarten prices increased by 14%. However, Kindertens in general only charge nominal donations/fees compared to those fees generally charged in Childcare and crèches and this means that small increases to kindergarten donations/fees in dollar terms can be seen as larger percentage price movements.

Table 9: ECE price increases versus cost of living and average earnings

	Percent increase: 12 months from 1 April 2005 to 31 March 2006	Percent increase: 24 months from 1 April 2005 to 31 March 2007
ECS/home-based	0.3	3.9
Kindergartens	8.4	14.0
Consumers Price Index	3.4	6.0
Average hourly earnings	5.2	-

The re-based series provides more detailed breakdowns from the June quarter of 2005 but has to be interpreted with caution due to the even shorter time period covered. As shown in Table 10, ECE fee increases varied considerably between service types and regions. For example, fee price increases were greater in Auckland than in other parts of New Zealand. Although consistent with stakeholder feedback that services in Auckland have had to increase fees in response to salary pressures due to a shortage of teachers, the increase in fees over time is only marginally higher than general cost of living increases and substantially less than the corresponding rate of increase in government funding and in ECS costs reported in the operating cost surveys.

Table 10: ECE fee increases versus cost of living and average earnings

	Percentage change	
	1 Jul 05 - 30 Jun 06	1 Jul 06 - 30 Jun 07
Education & Care, Auckland & Wellington	4.7	4.7
Education & Care, Rest of New Zealand	2.3	4.2
Home-based, Auckland & Wellington	0.3	1.1
Home-based, Rest of New Zealand	4.0	5.1
Private Services, Auckland & Wellington	4.8	3.9
Private Services, Rest of New Zealand	2.5	5.7
Community Services, Auckland & Wellington ⁽¹⁾	3.5	4.8
Community Services, Rest of New Zealand ⁽¹⁾	3.7	2.5
Education & Care, Community Services	3.0	4.4
Education & Care, Private Services	3.8	4.6
Education & Care, Community & Private Services	3.6	4.5
Home-based, Community Services	1.9	0.9
Home-based, Private Services	3.9	7.0
Home-based, Community & Private Services	2.9	3.8
Auckland, all provider types ⁽¹⁾	4.9	4.2
Wellington, all provider types ⁽¹⁾	3.2	4.3
Rest of North Island, all provider types ⁽¹⁾	3.3	4.3
Canterbury, all provider types ⁽¹⁾	3.7	5.4
Rest of South Island, all provider types ⁽¹⁾	1.4	2.2

(1) Includes kindergartens.

Stakeholder Feedback

Stakeholder feedback is broadly consistent with the indication above that ECE fee increases since the implementation of the new funding system have not exceeded cost of living increases. With the possible

exception of some services in those areas most affected by the teacher shortage, stakeholders believed the Ministry's funding contribution is generally covering cost increases associated with teacher salaries and that fees are not increasing beyond the pace of general inflation.

The Strategic Plan is not perceived to have impacted on the levels of parent fees charged by teacher-led services. In general, any increases to fee/donation levels have been in line with cost-of-living increases and have not met with any resistance from families or impacted on participation. Some stakeholders, in particular those from kōhanga reo and home-based services, noted that any increases in fees tended to reduce participation and so were avoided. It was reported that some kōhanga, particularly in Auckland, were facing the need to increase fees from \$80 per week to approximately \$100-150 per week but were resisting this for as long as possible.

Stakeholders from community-based services commented that fee/donation increases are usually accompanied by a corresponding decline in fundraising, perhaps reflecting an overall level of willingness or capacity to contribute to ECE on the part of the community.

At least one kindergarten association has moved from a donation-based system to a compulsory fee, and others are considering this move. Accompanying this change is the implementation of a robust debt collection system, whereas unrecovered donations have been written off. Although the level of payment per child has not changed (beyond a cost-of-living increase) this change is expected to result in a substantial revenue increase for the association. However, it also represents a departure from a long-held principle that families who cannot afford to pay should not be turned away from kindergarten.

An increasing number of home-based ECE providers are adopting a model in which educators set their own fee levels and parents pay educators directly. Therefore, these fee levels vary from educator to educator and do not show up in service providers' accounts. Educators' fees have more than doubled in some instances from \$3-4 per hour up to \$9 per hour but these increases may not be captured in the data collected from home-based operators by Statistics New Zealand where the operators do not hold any record of the fees charged by their Educators.

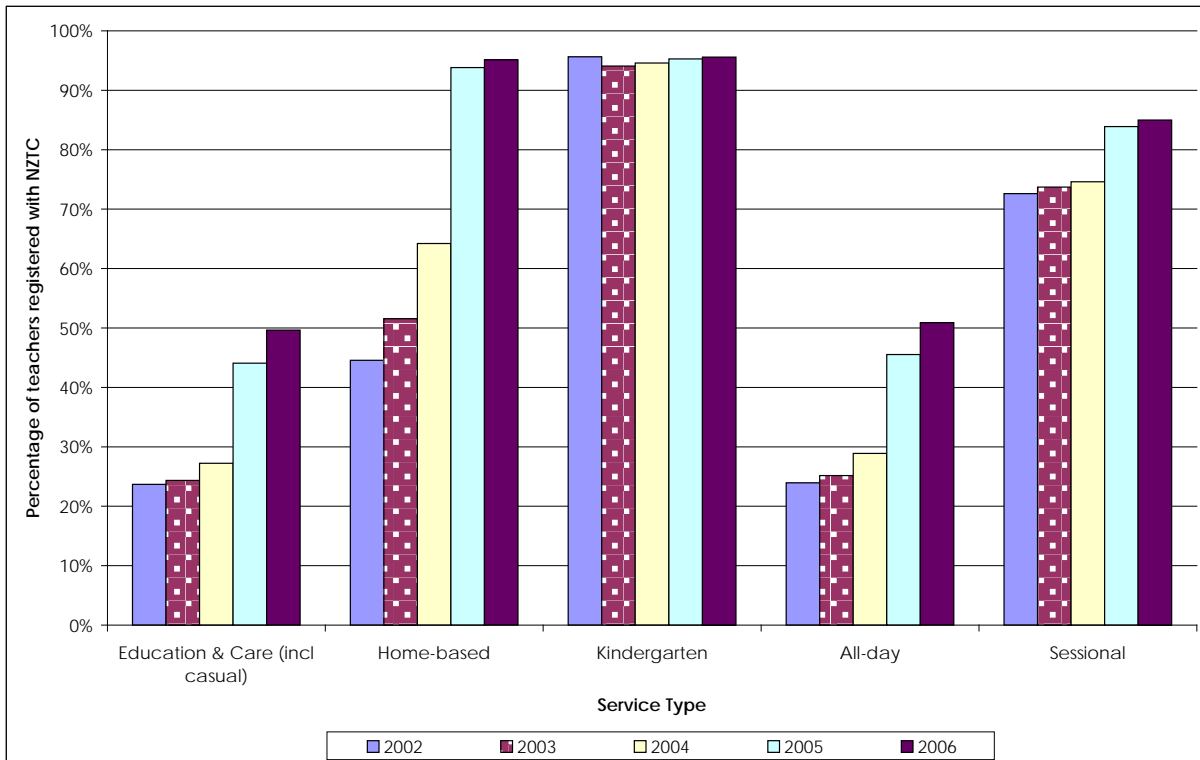
Incentives to Meet Teacher Registration Targets

Stakeholder feedback suggests that the funding system is meeting its aims in encouraging teacher-led services to meet teacher registration targets. Centres are generally reported to be striving to achieve the target levels in order to access the higher rates of funding.

“There is no question that the model is a huge incentive”.

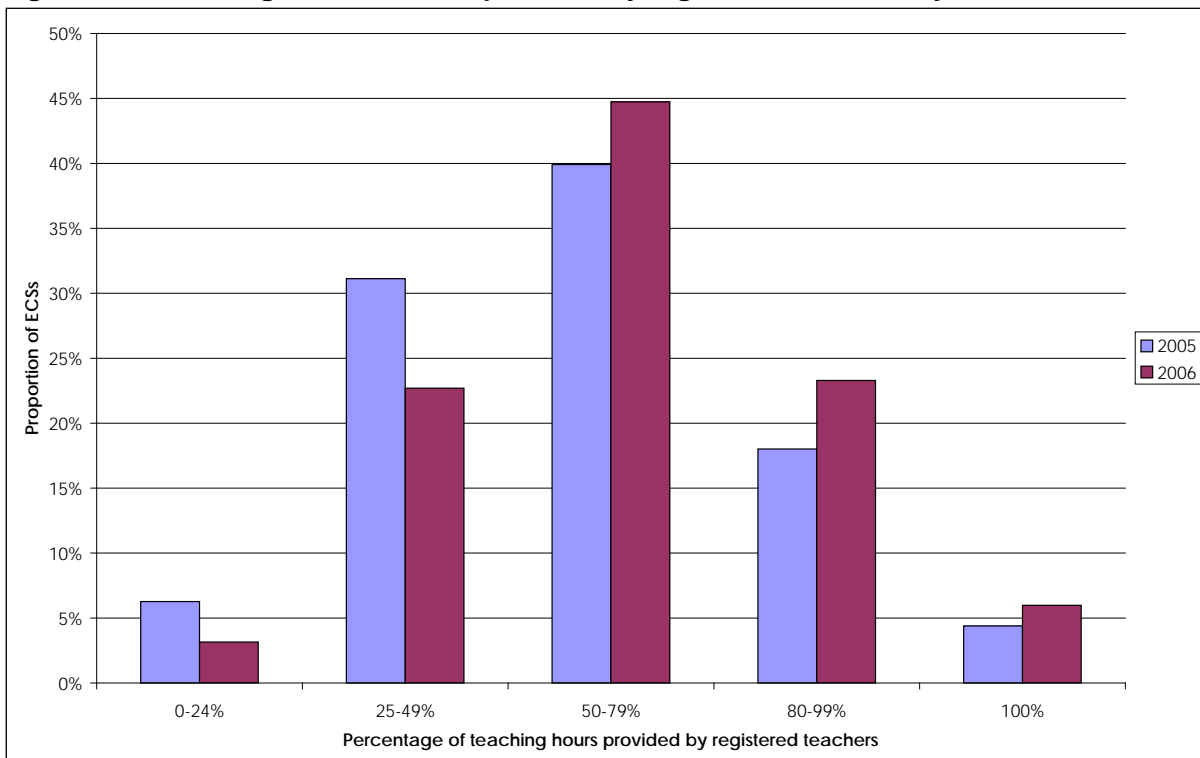
Figure 23 shows the increase in numbers of registered qualified teachers working in ECE, especially the rapid increase from a relatively low base for ECSs (and in particular, those providing all-day ECE). Although half of the teachers working in ECSs are registered qualified teachers, not all services currently meet the target of 50 percent registered qualified teachers by December 2007.

Figure 23: Numbers of registered teachers as proportion of total teachers, 2002-2006



Along with the increase in the number of registered teachers, the percentage of teaching hours provided by registered teachers has increased as shown for ECSs in Figure 24.

Figure 24: Teaching hours at ECSs provided by registered teachers by band, 2005 and 2006

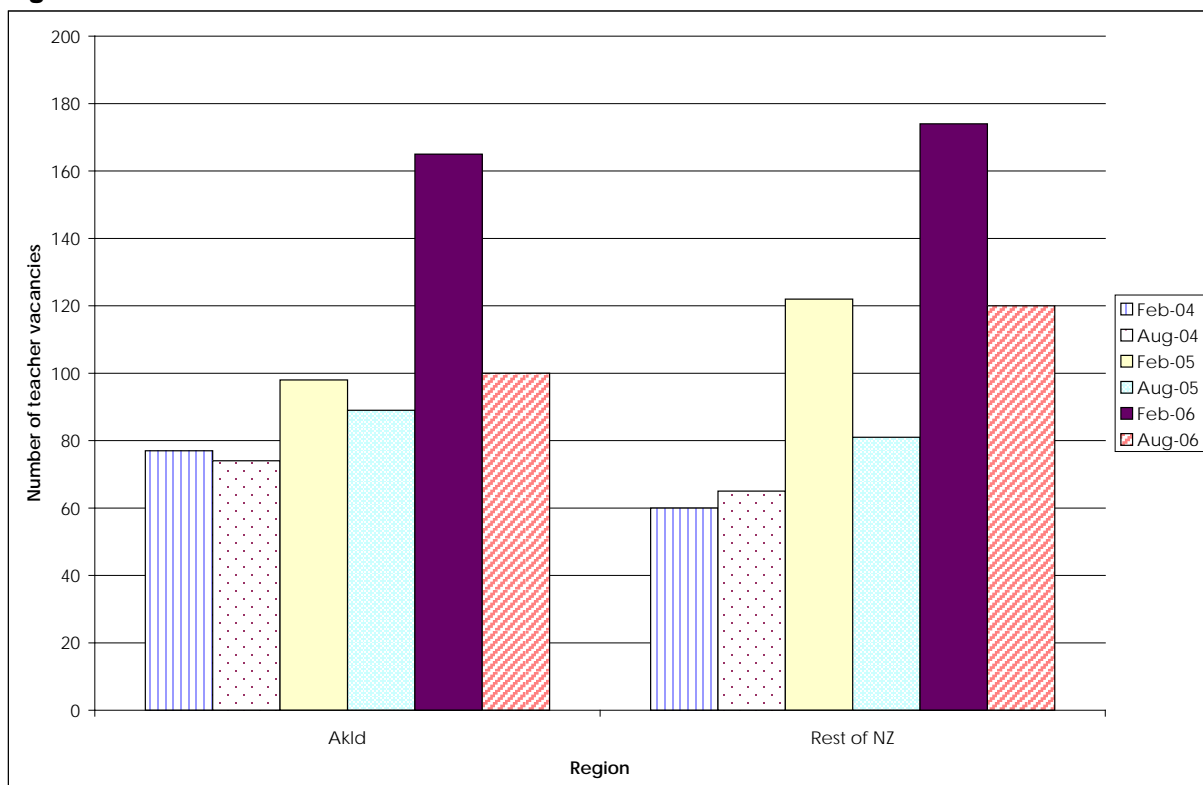


As noted earlier, the new funding system has also generated significant additional demand for registered teachers. This is demonstrated in the number of vacancies advertised in the Education Gazette. Analysis was conducted of the number of vacancies advertised in a small sample of six Gazettes over the last three years (namely, the first issue for the months of February and August 2003, 2004 and 2005). Figure 25 shows the results, which suggest that the number of advertised vacancies (and therefore the competition to attract registered qualified teachers) peaked in early 2006 and then subsided.

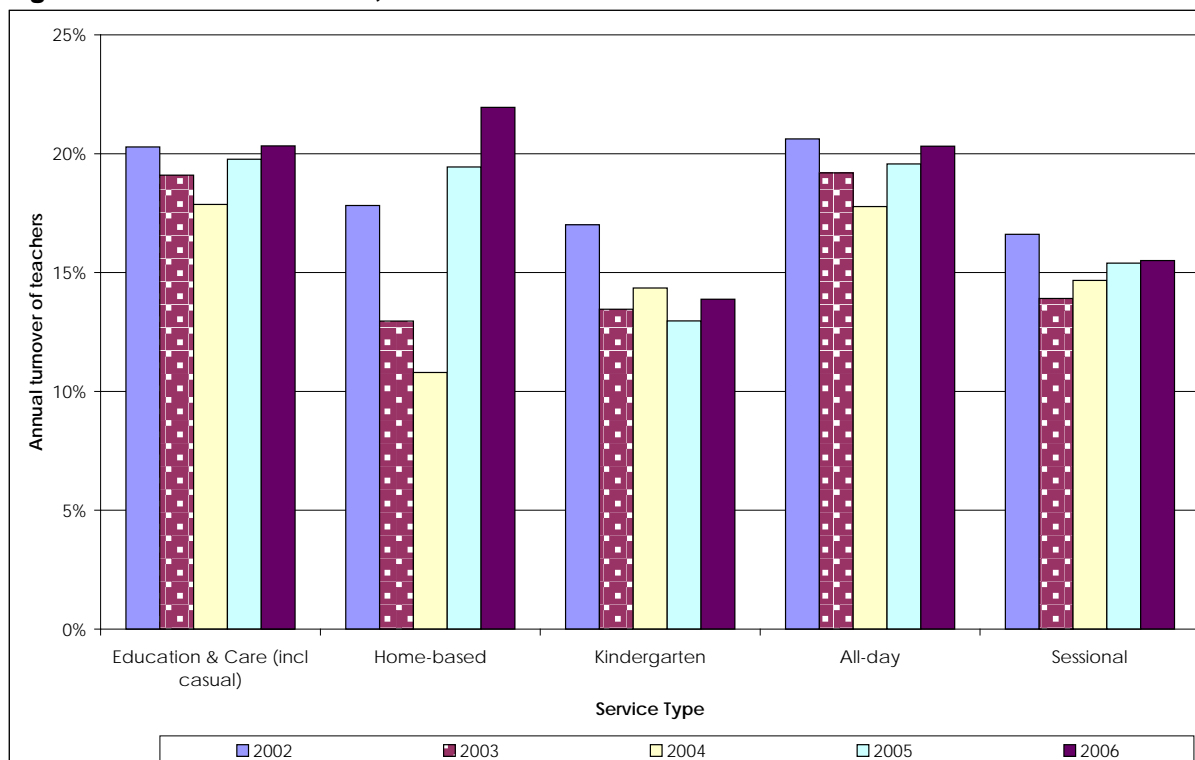
Auckland, which represents 27 percent of the ECE sector's child-hour capacity, accounted for roughly 50 percent of the advertised positions (plus or minus 5 percent) in each of the six Gazettes sampled. This is consistent with stakeholders' observations regarding a shortage of registered ECE teachers in Auckland, but does not provide evidence of this intensifying since early 2004.

Approximately four-fifths of the advertised vacancies were in ECSs. Of the remainder, most were in kindergartens and a few were coordinator vacancies in home-based services.

Figure 25: Numbers of teacher vacancies advertised in the Education Gazette



Some stakeholders observed that with registered teachers in high demand and short supply, some teachers have been able to improve their working conditions (including, presumably, rates of pay) by changing jobs. Figure 26 provides evidence that is consistent with (but does not prove) this assertion. Teacher turnover has increased in home-based services in particular, but also marginally in ECSs and, to a lesser extent, kindergartens. Stability in teachers (i.e. low teacher turnover) is an important component of quality education and care (Kershaw, Forer and Goelman, 2004).

Figure 26: Teacher turnover, 2002-2006

With regard to turnover at individual service level (which may be a risk factor for sustainability as well as quality) a draft Monitoring Framework analysis assessed the proportion of teacher-led services with more than 75 percent staff turnover in a year from 2002-2005, and found that this was stable over the four year period at roughly three percent of services.

Stakeholder Feedback

As a general observation, stakeholders appear less worried than two years ago regarding the achievability of the teacher registration targets, especially in urban areas. There are ongoing concerns in small rural areas, especially where there is sometimes only one registered qualified teacher within commuting distance and ongoing difficulty recruiting new teachers in.

The new funding system represents an opportunity to home-based networks in that they are categorised as a teacher-led service and able to market themselves as such. As well as potentially boosting participation in home-based ECE, this is expected to broaden the base of people who may be interested in working in the sector as educators, enabling more rapid growth in networks that currently cannot meet demand due to a shortage of educators.

However, stakeholders from kōhanga reo, Pasifika ECSs and home-based services noted that an unintended consequence of the incentive system is the enticement of the best-qualified kaiako/teachers into mainstream centre-based services. For example, one home-based coordinator stated that she could increase her salary by \$20,000 per annum if she joined a centre-based service.

Some kaiako already have ECE qualifications and although the Trust was not aware of the exact numbers it anticipated further kaiako pursuing these qualifications over time. A few kōhanga are treated as teacher-led services for funding purposes, and it is possible that some others (most likely in urban areas) will follow.

In this context there were potential concerns about the capacity of kōhanga to ensure sustainability (if they compete with market salaries for qualified kaiako they may run a deficit), and the associated risk of staff retention (if they do not pay market salaries they may lose kaiako).

“There is a definite link between cultural sustainability and financial sustainability. For the last 25 years we have focused on cultural sustainability. Financial sustainability has been supported by volunteers, low kaiako salaries. We are now realising we need to support cultural sustainability through financial sustainability. Changes in the last ten years have put pressure on the kōhanga movement. We need to be smarter and link cultural and financial sustainability together – we need to retain our kaiako to survive”.

Additional funding announced in the 2007 Budget (of \$13.9 million over four years) is aimed at supporting kōhanga to be more financially sustainable in the future and to continue to employ kaiako who are competent in te reo Māori (Maharey, 2007).

Impact of Sustainability on Core Outcomes

The findings above indicate that the sustainability of ECE services has remained fairly stable over a number of years and has improved according to some indicators since the introduction of the Strategic Plan and the new funding system.

With regard to outcomes, the only available indicator of quality at a national level is the increase in the number of registered qualified teachers – which has also been a key focus of the new funding system over the last two years. Government funding has matched cost increases during this time. CPI data and stakeholder feedback are in accord that cost increases have generally not been passed on to families (beyond normal cost of living fee increases), and participation has continued to increase. On the basis of these findings it can be concluded that the funding system has met its objective of supporting quality improvements while avoiding negative impacts on participation.

The implementation of Free ECE from 1 July 2007 will bring further increases in Government funding, aimed at increasing participation. Further monitoring and evaluation will be required to assess the impact of Free ECE on the sustainability of ECE services and on participation.

Relationship Between Case Study Sustainability and Core Outcomes

NZCER/TKRNT found that the percentage of services within each quality level remained much the same from 2004 to 2006. Quality in nine services was rated “very good” and quality in 20 services was rated “good” in 2006. This means *“the kinds of interactions, child engagement, educational programmes and resources that are associated with positive learning and developmental outcomes for children were observed some or most of the time in around two-thirds of the ECE services in the study”*. Most services sustained 2004 levels of quality in 2006.

Impediments to improvements in quality included difficulties in recruiting and retaining appropriate staffing/volunteer educators, difficulties in accessing training and professional development, insufficient time and conditions to support effective teaching and learning processes (especially in ECSs and kōhanga reo) and high volunteer workload (especially in playcentres).

HOI undertook further analysis of the NZCER/TKRNT quality indicators to explore relationships between case studies' indicators of sustainability (surplus/deficit, cash reserves, cashflow difficulties, occupancy, and NZCER indicator of sustainability) and quality (overall and individual indicators). No correlations were found. This is unsurprising given there were no significant changes in the quality indicators.

Similarly, analysis by NZCER found no correlation between the NZCER indicator of sustainability and participation.

Equity Funding

Results from the NZCER/TKRNT evaluation of Strategic Plan outcomes show that Equity Funding makes an important contribution to improving quality in services that received these targeted funds (services located in low income communities, immersion services, and isolated services).

Services receiving Equity Funding were over-represented in the services making positive shifts in overall quality and under-represented in services making negative shifts and those with consistently low levels. Most managers commented that Equity Funding had made a positive difference to the quality of their service or enhanced participation. Equity Funding expenditure was on curriculum resources, specialist equipment, subsidising excursions, and language support (aspects that would be expected to improve quality), or enabling participation. Equity Funding had reduced the need for fundraising and enhanced sustainability in several services.

This finding is consistent with earlier evidence of the positive contribution Equity Funding expenditure makes to improved quality when it is spent on aspects to support the curriculum (Mitchell, Royal Tangaere, Mara and Wylie, 2006b).

Advice and Support Interventions

The Ministry facilitates advice and support solutions through its regional offices. These solutions are targeted to community-based ECE services in areas of low ECE participation, where issues of quality, responsiveness or sustainability need to be addressed to maintain or increase participation levels. The evaluation sought to assess the extent to which the Government's support interventions under the Strategic Plan have been accessible, the extent to which they were taken up, and their effects on the sustainability of ECE services and capacity of the services to improve participation, quality and collaborative relationships.

A total of five case studies indicated that they had accessed advice and support. There was no apparent relationship between accessing this support and shifts in indicators of quality or sustainability for these five services.

Stakeholder interviews revealed several themes. Some stakeholders spoke highly of the support provided by the Ministry's regional offices, saying that their local Ministry representatives were "always available" and provided "useful advice and access to other networks and people who can help". Others indicated that they did not have positive relationships with their local Ministry offices, or that they preferred to access advice and support from other sources (such as kindergarten associations, Early Childhood Council or private consultants).

Advice and support brokered through the Ministry focuses on management and governance rather than on financial expertise directly. Stakeholders commented that community-based services often struggle with managing their finances effectively. This view is supported by the quality of some responses to the operating cost surveys and treasurer surveys. Stakeholders suggested that the Ministry should provide support for financial management in addition to management and governance.

Stakeholders also noted that the demand for PD, advice and support in leadership offered by organisations such as NZCCA has increased due to the number of relatively inexperienced registered teachers in leadership positions. Some kindergarten associations also stated that they were coming under increasing pressure to provide advice and support to other community-based services, and that there was a need for greater Ministry investment to meet the demand from these new teachers and services for assistance in building management capability.

It was also suggested that the Ministry could contribute to capability sharing by fostering networks and better linking community-based services, especially linking new/provisional services with established services.

Te Kōhanga Reo National Trust suggested that the provision of advice and support by the Ministry's field staff should include a stronger dialogue with the Trust (and other umbrella groups) to facilitate better planning and coordination of these efforts within the sector.

Some stakeholders argued that the advice and support needed to be provided more intensively to be of real benefit. One Pasifika stakeholder noted, "we can only get [consultancy services] three times a year but we really need it every couple of months to ensure we stay on top of it, and move ahead".

5 Conclusion

This evaluation has assessed: changes in patterns of expenditure and revenues of ECE services that may be associated with the implementation of the Strategic Plan; whether services have become more sustainable since the introduction of the Strategic Plan and the new funding system; whether the new funding system is having the intended effects of avoiding cost increases to parents and providing incentives for teacher-led services to meet teacher registration targets; and the impact of sustainability on quality and participation outcomes. Conclusions in relation to each of these areas are summarised below.

Changes in Expenditure and Revenues

The implementation of the Strategic Plan has brought cost increases for ECE services as anticipated. The most marked cost increases are associated with the implementation of targets for registered qualified teachers in teacher-led services. Analysis of the available data together with qualitative feedback from a range of ECE stakeholders suggests that additional Government funding is largely covering these increased teacher salary costs. The teacher shortage is said to be impacting on teacher salary costs in some regions. Although this was not detected in the 2006 operating cost survey, further monitoring is warranted.

Some of the costs associated with implementing the Strategic Plan (as well as other factors) are not financial, but nevertheless represent a risk to the quality and sustainability of ECE. Additional administrative work is often being absorbed by existing staff and/or volunteers in both parent-led and teacher-led services, causing stress and fatigue. Insufficient time and conditions to support effective teaching and learning processes, and high volunteer workloads have also been identified by NZCER and TKRNT as impediments to improving quality.

Changes in Sustainability

Analysis of the available national-level data suggests that the ECE sector as a whole is sustainable, and perhaps becoming gradually more so. The most striking observation is the stability in the indicators of occupancy, operating surplus/deficit, and working capital throughout a time period of several years pre and post introduction of the Strategic Plan. Some indicators also suggested a recent improvement in sustainability, but a longer time series is needed to establish whether this is a trend.

ECSs have shown the greatest overall changes in capacity, participation, quality (employment of registered teachers), revenues, and costs. Meanwhile, indicators of sustainability for ECSs have remained relatively stable or improved. The stability in these indicators at a systemic level masks the fact that the financial positions of individual services can fluctuate markedly over time. Despite this variability, however, very few ECE services close for financial reasons, and this further supports the impression of a sustainable ECE sector.

The ongoing decline in the utilisation of parent/whānau-led services does not appear to have been impacted by the implementation of the Strategic Plan. Playcentre stakeholders believed the Strategic Plan should be doing more to promote parent/whānau-led services as a high quality option.

The findings overall are consistent with the Ministry's provisional ECE Monitoring Framework finding that the majority of ECE services in NZ are operating at a sustainable level, and with the NZCER/TKRNT evaluation which found sustainability was "good" and did not change for the locality-based case studies between 2004 and 2006. Sector stakeholders generally considered that the Strategic Plan and the new funding system had not had a noticeable effect on the sustainability of ECE services.

There is a gradual trend toward clustering of services within community-based umbrella organisations and corporate entities. Clustering of services can improve sustainability by realising economies of scale and providing access to managerial and other expertise that stand-alone services would struggle to afford. Some of these benefits could also be realised through less formal networking of services – for example, clustering new services with more established services with experienced managers.

Effects of the Funding System

The available data did not provide direct evidence of whether the increased funding through the new ECE funding system is covering cost increases brought about by the Strategic Plan.

Analysis of Statistics New Zealand data for the two years following the introduction of the new funding system shows that on average, growth in ECE prices has been less than growth in the general cost of living and in average hourly earnings. Meanwhile, participation in ECE has continued to increase. Both of these findings support the proposition that services have not passed cost increases on to parents.

Stakeholder feedback and quantitative evidence are in agreement that incentives to meet teacher registration targets appear to be working. Based on these findings (including increased employment of registered teachers, continued increases in participation, stable or improving sustainability, and low average growth in fees), it can be cautiously concluded that the funding system is having the intended effects overall.

A shortage of teachers may be responsible for the increased teacher turnover following implementation of the new funding system, and has also been identified by NZCER and TKRNT as an impediment to improving quality. The teacher shortage is creating opportunities for rapid progression for new teachers. Stakeholders identified potential risks associated with having relatively inexperienced teachers in leadership positions, and suggested that these transitional risks may be managed through appropriate PD, mentoring, advice and support.

Impact of Sustainability on Quality and Participation Outcomes

Sustainability of ECE services is an important precondition to participation and quality. The majority of additional ECE funding during the period of this evaluation was associated with quality (registered teachers) and the available evidence suggests this funding has been successful in increasing the proportion of registered qualified teachers while avoiding negative impacts on participation. Free ECE funding (from 1 July 2007) represents a significant investment in participation, the impacts of which will only be known after further monitoring and evaluation.

The available data did not permit the evaluation to determine *how sustainable* an ECE service has to be, in order for financial factors not to be an impediment to achieving the goals of the Strategic Plan. However, findings across the sustainability indicators suggest that somewhere in the order of 5-10 percent of ECE services may not be comfortably sustainable.

If common characteristics of less sustainable services can be identified, strategies can be developed to improve their sustainability. Risk ratios could be calculated for a range of factors such as service type, ownership structure, rurality, socio-economic status, number of years ECE service has been in operation, percentage of registered teachers, teacher turnover, head teacher years of experience, financial expertise of manager/treasurer, etc. This would require further analysis against existing data sets, supplemented by primary data collection which could be carried out through subsequent operating cost surveys.

Feedback from stakeholders and experience with the operating cost and treasurer surveys suggest that some managers and treasurers struggle with the financial management aspects of operating an ECE service as many have received no formal training in this area. In order to be fully effective, the Government's investment in ECE must be effectively managed by the people in charge of ECE services. It would be in the interests of the Ministry and sector leaders to work together to develop a package of PD, advice and support on financial management in ECE.

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