Provision of ECE services

There were 4,292 licensed early childhood education (ECE) services in 31 December 2013, up 2.0% from the previous year and 17.7% from five years before. Growth is still high, but is well down on where it was between 2007 and 2010.

This growth more than matched growth of the underlying population of 0 to 4 year-olds. The number of services per child grew by 2.8% over the last year and 12.7% over the last five years.

Less than half of ECE services have waiting times. Waiting times rose between 2002 and 2008, but have since fallen and are now the lowest they have been.

Indicator Description

Three indicators have been used in this report:

- Annual growth in number of licensed ECE services
- Annual growth in number of licensed ECE services per child (age-weighted 0-4 year-old population)
- Percentage of services with waiting times.

1 Although they are not licensed ECE services, playgroups (licence-exempt services) are an important component of the provision of ECE services. However, they have been excluded from these indicators due to potential inconsistencies in the way their number has been counted over time. There are also no waiting times data available for playgroups.

2 Age-weighting is based on each year of age’s share of the estimated total number of weekly hours of enrolment in ECE.
Why This Is Important

Participation in high quality ECE has significant benefits for children and their future learning ability. Some studies have found that engagement in ECE helps to develop strong foundations for future learning success (Statistics NZ and Ministry of Pacific Island Affairs, 2010). These effects apply to all children but may be particularly important for building academic achievement in children from poorer communities and socio-economic backgrounds (Ibid., and Mitchell, et al, 2008).

ECE has been shown to positively impact literacy, numeracy, and problem-solving skills well into the teenage years, while other studies have shown that high quality ECE encourages the development of cognitive and attitudinal competencies, and leads to higher levels of achievement and better social outcomes (Ibid., OECD, 2011, Statistics NZ and Ministry of Pacific Island Affairs, 2010, Wylie et al, 2009).

International and longitudinal studies have also found that participation in high quality ECE can translate into improved longer-term outcomes. Several studies have identified links between participation in ECE and better social and economic outcomes for children when they reach older ages (Ibid). This link is, again, strong for disadvantaged children. Some studies have also identified positive relationships between ECE participation and the affect on wider societal outcomes; for example, ensuring participation in the labour force and in building labour force capability (Ministry of Women’s Affairs, 2004).

ECE Participation has been identified as a key factor in supporting vulnerable children which has led to its inclusion in the Better Public Services Programme, launched in 2012. This Programme aims to increase participation in early childhood education to 98 percent of all new entrants by 2016 (State Services Commission, 2012).

If children are to attend ECE, there has to be a sufficient number of services available for them to enrol in. Service provision needs to grow to meet any growth in the underlying population. It also needs to meet growth in the proportion of families wanting their children to attend ECE and to do so for longer hours.

How We Are Going

Annual growth in number of licensed ECE services

There were 4,292 licensed ECE services at the end of December 2013. Excluding mergers3, the number was 2.0% higher than a year before. This increase represents the difference between the percent of services that opened that year (3.2%) and the percent of services that closed (1.2%). Services grew 17.7% over the last five years. Annual growth in the number of services has always been positive. It was particularly strong in 2009, peaking at 6.9% in September 2009. Since then, annual growth has fallen back to 2006-2007 levels. See Table 1 and Figure 1.

<table>
<thead>
<tr>
<th></th>
<th>Jun-09</th>
<th>Jun-10</th>
<th>Jun-11</th>
<th>Jun-12</th>
<th>Jun-13</th>
<th>Dec-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number (year-end)</td>
<td>4,158</td>
<td>4,361</td>
<td>4,483</td>
<td>4,282</td>
<td>4,284</td>
<td>4,292</td>
</tr>
<tr>
<td>Opening rate</td>
<td>7.2%</td>
<td>6.3%</td>
<td>4.2%</td>
<td>3.4%</td>
<td>3.6%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Closure rate*</td>
<td>1.1%</td>
<td>1.2%</td>
<td>1.3%</td>
<td>1.1%</td>
<td>1.3%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Net-opening rate*</td>
<td>6.1%</td>
<td>5.1%</td>
<td>3.0%</td>
<td>2.3%</td>
<td>2.3%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

(*excluding mergers)

3 A significant number of mergers occurred following regulation changes that, on 1 July 2011, increased the maximum number of licensed places from 50 to 150 places per service. This resulted in a number of cases where separately-held licences (counted as separate services) merged their licenses into a single licence (and service). http://www.lead.ece.govt.nz/ManagementInformation/RegulatoryFrameworkForECEServices/IncreasingECECentreSize.aspx
The increased levels of growth after 2005 and after 2007 followed significant changes to the funding system in both years. In 2005, a new system was introduced that was based on cost-drivers and paid services more if they fulfilled certain quality requirements, mostly concerning the qualifications held by their teachers. In 2007, 20 Hours ECE was introduced. Both changes increased the average hourly rates paid to ECE services.

Service growth is also likely to have reflected the rising proportion of children attending ECE and doing so for longer hours (Ministry of Education, 2014). In addition, the 0–4 year-old population grew by around 2 percent annually for much of the high-growth period, as will be shown in the next section.

Overall levels of growth have not been consistent across all service types. They have been largely driven by growth in the number of education and care services, which make up a large proportion of licensed ECE services (54% in December 2013). Education and care services grew by 29.7% in the five years to December 2013, excluding the impact of mergers. Home-based services also experienced strong growth over the same period, growing by 29.3%. By contrast, there has been little growth for kindergartens, playcentres and kōhanga reo services. See Table 2 and Figure 2.

Table 2: Annual percentage growth of licensed ECE services, excluding the impact of mergers, by service type

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Jun-09</th>
<th>Jun-10</th>
<th>Jun-11</th>
<th>Jun-12</th>
<th>Jun-13</th>
<th>Dec-13 (Number)</th>
<th>5 year change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Care</td>
<td>9.8%</td>
<td>8.2%</td>
<td>5.1%</td>
<td>3.1%</td>
<td>3.9%</td>
<td>2,330</td>
<td>29.7%</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>-0.2%</td>
<td>1.0%</td>
<td>0.3%</td>
<td>0.5%</td>
<td>0.0%</td>
<td>647</td>
<td>1.9%</td>
</tr>
<tr>
<td>Home-based</td>
<td>20.5%</td>
<td>7.5%</td>
<td>-0.6%</td>
<td>7.6%</td>
<td>3.1%</td>
<td>371</td>
<td>29.3%</td>
</tr>
<tr>
<td>Playcentre</td>
<td>-1.1%</td>
<td>0.2%</td>
<td>-0.2%</td>
<td>-1.1%</td>
<td>-1.3%</td>
<td>447</td>
<td>-3.0%</td>
</tr>
<tr>
<td>Te Kōhanga Reo</td>
<td>-2.1%</td>
<td>-0.6%</td>
<td>0.6%</td>
<td>0.2%</td>
<td>0.6%</td>
<td>465</td>
<td>-0.6%</td>
</tr>
<tr>
<td>Casual Ed&amp;Care / Hospital-based</td>
<td>8.3%</td>
<td>2.6%</td>
<td>5.3%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>32</td>
<td>13.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6.1%</td>
<td>5.1%</td>
<td>3.0%</td>
<td>2.3%</td>
<td>2.3%</td>
<td>4,292</td>
<td>17.7%</td>
</tr>
</tbody>
</table>
Annual growth in number of licensed ECE services per child

While the number of ECE services has grown, so has the number of 0-4 year-olds, at least until recently. When looking at growth in ECE services relative to population growth, this report weights the population at each age by that age-group's likelihood of using ECE\(^4\). The age-weighted 0-4 year-old population grew by 4.4% in the five years to 31 December 2013, but fell by 0.8% in the year to December 2013. The figures show that service growth has been positive, even after taking account of population growth. The number of licensed ECE services per 0-4 year-old population (weighted) grew by 12.7% in the last five years and by 2.8% in the year to December 2013. See Table 3 and Figure 3.

Table 3: Annual percentage growth in the number of licensed ECE services per child (weighted), excluding the impact of mergers

<table>
<thead>
<tr>
<th></th>
<th>Jun-09</th>
<th>Jun-10</th>
<th>Jun-11</th>
<th>Jun-12</th>
<th>Jun-13</th>
<th>Dec-13</th>
<th>5 year % change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of licensed ECE services</td>
<td>6.1%</td>
<td>5.1%</td>
<td>3.0%</td>
<td>2.3%</td>
<td>2.3%</td>
<td>2.0%</td>
<td>17.7%</td>
</tr>
<tr>
<td>0-4 yr-old population</td>
<td>2.1%</td>
<td>2.8%</td>
<td>1.9%</td>
<td>0.0%</td>
<td>-1.2%</td>
<td>-0.8%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Number of services per child</td>
<td>4.0%</td>
<td>2.3%</td>
<td>1.0%</td>
<td>2.3%</td>
<td>3.5%</td>
<td>2.8%</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

\(^4\) A considerably lower proportion of children under one year of age attend ECE compared with four year-olds. If the number of births suddenly increases, it will not be until the babies turn three or four years of age that their number will have its biggest impact on ECE. To account for this impact on the demand for ECE, the population figures have been weighted to reflect the share that children of each single year of age make of the total number of hours attended.
Figure 3 shows annual growth in the number of services per child to have risen strongly over the last three years, reaching a high of 3.7% in December 2012. The graph also suggests that this measure has been more volatile over time than that of the number of services. Its drop in late 2003, rise in late 2004, drop in 2006/07, and rise from 2011 onwards were all driven by changes in population growth. Figure 3 also suggests that service growth may not always respond to changes in population growth, at least not in the short term. The fall in population over the early-2005 to mid-2006 period and from mid-2011 had no obvious impact on service growth. Indeed, service growth actually rose in early 2005 and is likely to have instead been driven by changes to the funding system. The higher service growth from late-2007 to late-2009 also followed changes to the funding system, although this time it was also supported by stronger population growth of around 2%.

Percentage of services with waiting times

Waiting times refer to the length of time a family wanting their child enrolled in an ECE service would have to wait before the service can take the child in.

Waiting times give an indication of both the level of unmet demand for ECE and the profitability of ECE services.

- If a service has waiting times, there is likely to be at least one child not able to attend that service immediately. The child would not be able to attend ECE at all if nearby services also have waiting times. The longer the waiting times, the higher will this level of unmet demand be.
- A service with waiting times is likely to be full and thereby more likely to have higher levels of profitability than services with no waiting times.

An increase over time in the proportion of services with waiting times would therefore indicate both more children not able to attend ECE services and increasing profitability in the sector. If the proportion fell over time, fewer children will be waiting but profitability may well be falling.

There may, however, be other reasons for services having waiting times than them being full. An example is that child/teacher ratios may prevent a service taking in more new children than their current number of teachers would allow.
Waiting time figures vary considerably between service types. For instance, few home-based services and playcentres have waiting times for new enrolments. This is because almost all home-based services have educators/caregivers available to take on extra children. Similarly, playcentres tend to have the spare capacity to take on extra parents and their children at short notice. By contrast, waiting times can be long for education and care services and for kindergartens. Note that, while differences between service types may indicate differences in their levels of unmet demand, conclusions cannot be made about the comparative profitability of the different service types, due to considerably different cost structures.

The service type differences can be seen clearly in Figure 4, which shows the percentage of services by the length of their waiting times for each service type and age of child. Waiting times increase slightly with age for education and care services. While the percentage of kindergartens with waiting times is fairly similar between 3 and 4 year-olds, those 3 year-olds waiting tend to wait for a longer period. This is because of the tendency of kindergartens to take in 4 year-olds quite readily and to manage their capacity by limiting the intake of younger children.

How the proportion of ECE services with long waiting times changes over time can indicate whether the number of services is growing fast enough to meet any growth in the number of families wanting their children to attend. A rising proportion indicates that growth in ECE supply is not high enough to meet growth in the demand for ECE; a falling proportion indicates that it is more than meeting growth in demand.

In overall terms, waiting times rose each year from 2003 to 2008, but have fallen quite rapidly since. The proportion of services with waiting times rose 15.2

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6 Waiting times for home-based services refer to the wait for families to obtain a place with any of the caregivers in the network. However, depending on individual preferences, some families may wish to wait longer for a caregiver with a particular skill or type of environment (e.g., has a piano in the house).
percentage points in the five years to 2008, from 51.6% to 66.7%. Since then it has fallen 21.5 percentage points to 45.2% in 2013, which is below its level in previous years. The pattern varied considerably across service types, with the overall figures being largely driven education and care services. See Figure 5.

The trends over time for each service type are as follows.

- Education and care services had an increasing proportion of services with waiting times over much of the 2003 to 2008 period, indicating that service growth was insufficient to meet the rising demand for ECE at these services. Demand for ECE is likely to have been further boosted by the introduction of 20 Hours ECE in mid-2007. However, there has been strong growth in the number of education and care services since then (see Table 2 and Figure 2), resulting in a fall in the proportion of services with waiting times.

- Kindergartens have the highest proportion of services with waiting times. There has been no consistent trend to these figures over time, although the proportion has tended to show a slight downward trend over the long term.

- While only a low percentage of home-based services have waiting times, their trend is similar to that of education and care services in that they rose following the introduction of 20 Hours ECE to peak in 2008, but have been falling since.

- Playcentres have had a low proportion of services with waiting times, with the proportion falling even further in recent years.

These are weighted figures. They are weighted in two ways. First, the contribution of each service type’s waiting times is weighted by their share of enrolments in 2012. Second, the overall waiting times used for each service type itself are the age-weighted average of the waiting times for each year of age, where the weighting is based on the year of age’s share of the total number of 0-4 year-old enrolments in 2012. This weighting is done to prevent age groups and service types with few ECE enrolments having an undue effect on the overall waiting time figures. The exception is kindergartens, where only the 3-4 year-old group is included, as the figures for the younger children are distorted by the fact that very few kindergartens accept children before they are three or four years of age.
For all service types, the percentage of services with waiting times was at its lowest level in 2013, being 45.8% for education and care services, 76.4% for kindergartens, 9.5% for home-based services, and 7.6% for playcentres.

In the case of education and care services, there were differences in trends between age groups. Over 2007-2009, the proportion of services with waiting times for 2-4 year olds rose relative to the proportion with waiting times for under-2 year olds. This change probably reflects the targeting of 20 Hours ECE, with only children aged three years or older being eligible for the scheme and hence demand from this age group now being higher. Since 2009, waiting times have tended to be higher for 2-4 year-olds than for 0-1 year-olds. See Figure 6.

Where To Find Out More

Analysis in this report has begun to explore indicators of provision of ECE services in New Zealand. More statistics on ECE services and provision, including waiting times and occupancy rates can be found at http://www.educationcounts.govt.nz/statistics/ece2/services.

A large range of other ECE statistics can be found at http://www.educationcounts.govt.nz/statistics/ece2.

More can be found on ECE indicators at http://www.educationcounts.govt.nz/indicators. The Education Counts website also provides a range of ECE related publications at http://www.educationcounts.govt.nz/publications/ece.

For a large range of other information on ECE in New Zealand see the ECE Leadership, Management and Administration, or ECE Lead, website at http://www.lead.ece.govt.nz/
References

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