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Calculation of Free Early Childhood Education Rates

Summary

The Ministry of Education developed funding rates for Free Early Childhood Education by calculating the:

1. **average cost per hour of ECE:** using the total costs of provision from the 2006 Operating Cost Survey for each type of ECE service (Sessional Education and Care, All Day Education and Care, Home Based and Te Kōhanga Reo), and dividing costs by the number of hours of ECE provided
2. **average government funding subsidies:** using the subsidy rates paid in 2005/06 (the period that most services' Operating Cost Survey related to)
3. **average amounts of cross-subsidisation or cost-smoothing:** using information on fees and subsidy rates for different age groups and periods of attendance of ECE, this estimates how services currently use fees and subsidies to offset their costs, in particular the estimated additional contribution being made by the first 20 hours per week for three and four year-olds. This amount was then added to the average cost per hour in step 1.
4. **costs not met by government funding:** adding the results of steps 1 (average cost) and 3 (cross-subsidisation), then subtracting step 2 (funding subsidies), calculated the amount needed in 2005/06 to provide Free ECE
5. **cost increases since 2005/06:** an inflation increase to the results of step 4 (costs not met by government funding).
6. **total Free ECE funding rates:** by adding the results of steps 4 and 5 to ECE funding subsidy rates (from 1 July 2007).

Background

Free ECE funding rates need to fund the full average cost of providing ECE in each type of service. This requires information on the cost of provision, and on how that cost varies between types of ECE service.

The Free ECE funding rate modelling started from an assumption that the existing number and structure of funding rates reflected the main differences in total cost of ECE provision, and therefore was appropriate for Free ECE. The modelling work checked these assumptions by analysing the main differences in cost for ECE services. It also looked at whether costs were persistently higher in particular regions, and found there was no evidence that they are. The results of this analysis are in the accompanying report 'Operating Cost Survey Results'.

Fit between Operating Cost Survey information and Free ECE funding rates

The purpose of the Operational Costs Survey 2006 (OCS) was to gauge the cost of providing ECE to the regulated standard of provision (Free ECE is intended to fund

the regulated standard). In practice the survey results provide the actual cost of provision, which is higher because:

- some services do not achieve maximum occupancy (this raises cost per enrolled child-hour, but not total cost)
- some services operate with above regulatory staffing levels or provide additional services (this raises total cost and possibly cost per enrolled hour)

We have some indication of the effect of occupancy on cost, through the capacity question in the OCS and RS7 (Early Childhood Funding Claim Forms) take-up of maximum funded hours. But there is relatively little indication of the effect of operating above regulatory requirements, although there is some information on total hours worked by teachers in the RS61 (this is annual statistical information provided by licensed services).

As a result of services operating at less than maximum occupancy and above the minimum regulated standard, costs reported in the survey are likely to be higher than the cost of providing to the regulated standard.

The Ministry believed it was not feasible for actual services to isolate the cost of extra services from the cost of meeting the regulated standard (for example, this would mean services isolating parts of their salary costs). An alternative approach, of the Free ECE funding rates being based on the notional cost of provision in a hypothetical service, would have had a weaker evidence base and may not have reflected services' costs. As a result, all Free ECE funding rates reflect actual average costs reported by ECE services.

Checks on Operating Cost Survey returns

To check that the OCS returns reflected services' costs the OCS returns were compared with services' most recent audited accounts. Around 70% of services reported OCS costs identical with or very close to those in their audited annual reports. It was not possible to compare all services' OCS returns, as services with very recent balance dates had not yet needed to provide their most recent audited accounts and as private services are not required to provide full accounts.

Out of 413 comparable responses covering 788 early childhood centres, the following results were found:

- 47% of responses reported identical expenditure per funded child hour in both the cost drivers' survey and their annual financial report.
- 26% of responses were within 50c per funded child hour.
- 8% of responses within \$1.00 per funded child hour.
- 18% of responses reported larger differences, but many of those with a large difference had provided the Ministry with audited accounts covering a large organisation (eg. a hospital or tertiary institution) that included an early childhood service.

We concluded that responses from the OCS survey provided a suitable basis for informing the setting of Free ECE rates.

1. The average cost per hour of ECE

Data from the OCS was combined with numbers of enrolled hours for children over 2. The number of enrolled over2 hours was collected in the 2005 RS61 Roll returns from most services, and through separate data for Te Kōhanga Reo provided by the National Kōhanga Reo Trust.

Cost information from the OCS was combined to give a total figure for all costs reported in the survey for each respondent. These costs included the new 2006 questions on property costs. The costs services reported for ‘spending on new, replacement and improved assets’ and ‘money put aside for future spending on assets’ were averaged to avoid counting those costs again in subsequent years, and to acknowledge that replacing assets represent lumpy expenditure that centres may not be budgeting effectively for.

As many centres provide services to both under 2 and over 2 children and costs for each group cannot be readily separated, it is necessary to make assumptions about the relative incidence of costs for the two age groups. Assuming a simple cost ratio between costs for the two groups provides a basis for this. Under2s in all-day services have staffing ratios twice as high as over2s (with teacher staffing costs representing about 75% of total costs), and under2s are also likely to require more specific space, and dedicated facilities (such as sleeping areas, nappies, changing tables).

Under2:over2 cost ratios used for the funding rates were 2:1 for all service types except sessional education and care, for which a ratio of 2.94:1 was used because staffing ratios are three times higher for under2s. These ratios provide the under2 cost weightings of 2 and 2.94 used in the model to establish free rates.

There is some uncertainty about the actual cost ratios experienced by services, and precise ratios were not possible to establish from the available data (in particular, it was not possible to establish reliable average costs for services that provided only to under2s or over2s). Because of this uncertainty the ratios used in this report were chosen to maximise the final Free ECE funding rate, so that services were not disadvantaged.

The average cost of provision for each service was calculated as follows:

$$\text{Average cost of Provision (per over2 hour)} = \frac{\text{Total cost}}{\text{over2 hours} + (\text{under2 cost weighting} * \text{under2 hours})}$$

2. Calculation of the average over2 subsidy rate

The average subsidy rate received by services of each type was calculated by dividing the total expenditure by the estimated total enrolled hours for the four service types (Sessional Education and Care, All Day Education and Care, Home Based and Te Kōhanga Reo). The total enrolled hours were estimated by observing the ratio of the number of enrolled hours reported in the snapshot week covered by the 2005 RS7 (RS 61?) survey to funded hours in that week and applying that to the total number of funded hours for the 2005/06 year.

3. Cross-subsidy estimate

Results from information provided by the New Zealand Early Childhood Council (NZECC) revealed that fees per hour on average decline as weekly hours of participation increase, and that the gross revenue received by providers differs significantly between groups of ECE users.

The differential revenue generated by different sub-groups of users could reflect real differences in costs or cross-subsidies between those sub-groups. In any event, a Free ECE funding regime needs to acknowledge those current practices. In particular, it was apparent that the first 30 hours for over 2 children generate a disproportionately high level of revenue to centres, and it also seemed that fees for children aged 2 and over may be meeting some of the costs of provision to children aged under 2. Accordingly an estimate was made of the “cross subsidy” provided by this group which was included in establishing Free ECE rates in the following ways:

- teacher-led all-day centres and home-based rates reflect cost smoothing between short and long hours, and between older and younger children
- sessional teacher-led centres and Te Kohanga Reo rates reflect cost smoothing between older and younger children only, as these services operate for only the 30 funded hours per week. The cross-subsidy was based on NZECC data in the absence of more specific data about these services.

4. Unfunded cost of subsidised hours

To establish rates for Free ECE it is necessary to estimate the unfunded (by government) cost of subsidised hours, in particular the first 20 hours for 3 and 4 year-olds. It is this cost that Free ECE rates are intended to meet.

The cost not currently met by government for subsidised over2 hours for each service type was calculated from the three inputs described above as follows:

$$\begin{array}{rcccl} \text{cost not currently met by} & & \text{mean cost} & & \\ \text{government for} & = & \text{of provision} & - & \text{average over2} \\ \text{subsidised over2 hours} & & \text{for all hours}^1 & & \text{subsidy rate} & + & \text{cross-subsidy} \\ & & & & & & \text{estimate} \end{array}$$

¹ Note: under2 hours converted to equivalent over2 hours to allow calculation of global cost per hour.

This figure was used as the unmet cost as at the time period for which most services completed the OCS, the 2005/2006 financial year.

5. Applying cost increases for budget 2006

Budget 2006 increased rates of ECE funding subsidy to reflect increased costs of providing ECE since Budget 2005. These increases varied based on cost changes faced by each type of service. The same relative cost movements used to set Budget 2006 increases to funding rates have been used to increase Free ECE funding rates

The Free ECE rates reflect, for each type of service, the combined result of average costs from the OCS survey, the “cross-subsidy” measuring the disproportionate share of revenue currently borne by the first 20 hours per week for ECE for three and four year-olds, and the adjustment to account for cost increases recognised in Budget 2006.

These top-ups are then added to funding subsidy rates for each current funding band to give the fifteen free rates