

**C.I.R.C.L.E.**

COLLABORATIVE INSTITUTE FOR RESEARCH, CONSULTING &  
LEARNING IN EVALUATION



A logic model for the evaluation of  
the 10-year Strategic Plan for Early Childhood  
Education:

**Pathways to the Future:**  
**Ngā Huarahi Arataki**  
June 2003

The logic model diagram and the draft program logic  
matrix shown in this version have been adapted by staff at  
the Ministry of Education

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## 1. Summary

The report presents the logic model developed to guide the evaluation of *Ngā Huarahi Arataki Pathways to the Future* - the 10-year Strategic Plan for Early Childhood Education.

It briefly outlines the process by which the logic model was developed, presents a diagram of the overall logic model, discusses how the logic model could be used in the evaluation, including the use of negative program logic (possible negative outcomes), and outlines a draft program logic matrix that could be further developed as part of the evaluation of the Strategic Plan.

## 2. Logic Models<sup>1</sup>

A logic model is an articulated model of how a program or project is understood or intended to contribute to its specified outcomes that focuses on intermediate outcomes rather than tightly specified processes. These are usually shown diagrammatically, but can be reported in narrative form. While logic models have become increasingly popular in recent years, their use can be traced back at least to the 1960s when Suchman (1967) suggested that evaluation might address the achievement of a 'chain of objectives'.

Logic models can be developed prospectively for planned new programs or retrospectively for existing programs. Logic models can be used in various ways: (i) to guide an evaluation, (ii) to provide staff and other stakeholders with a common, motivating vision and (iii) to report a performance story to funders and senior decision-makers. Ideally, a performance story based on a logic model does not simply report evidence to support the causal chain, but addresses the extent to which the outcomes can reasonably be attributed to the program, and the influence of external factors.

Logic models can be drawn with the causal sequence going from left to right, from top to bottom, from bottom to top, or even from the outside into the centre of a circle. Where there are multiple strands of a program logic, it can be important to make it clear whether these are *alternative* causal paths, or *complementary* paths.

## 3. Development of the Logic Model

Considerable work on the logic model was completed as part of the development of the Strategic Plan, which explicitly refers to theories of action and intended causal chains based on research evidence and policy directions.

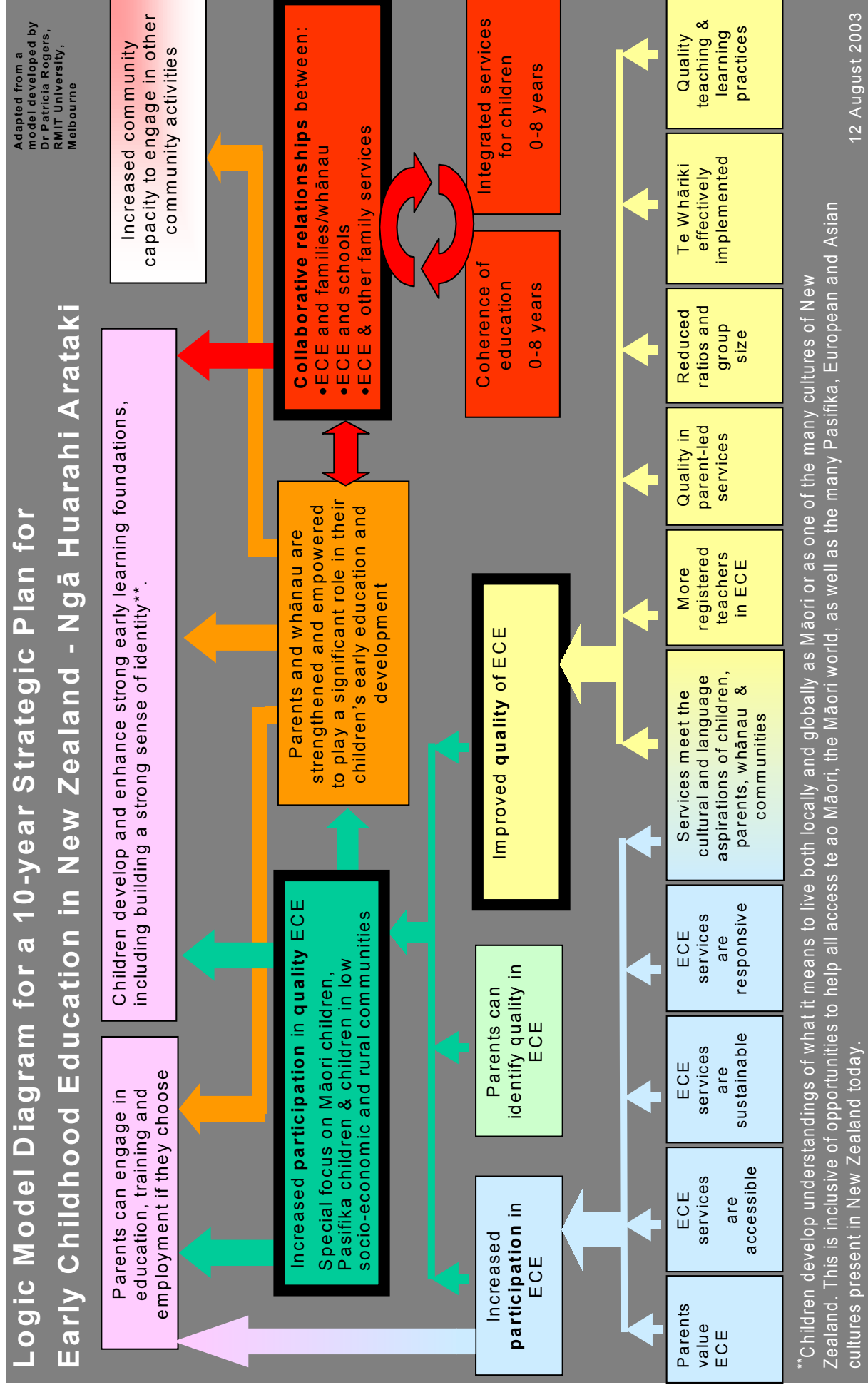
The discrete project of developing the logic model was undertaken in May and June 2003 by Dr Patricia Rogers of CIRCLE (Collaborative Institute for Research, Consulting and Learning in Evaluation) at RMIT University (Royal Melbourne Institute of Technology), Australia, in consultation with staff from the Ministry of Education, early childhood researchers, and representatives of the early childhood sector, and drawing on policy documents, Cabinet briefing material, and research reports supplied by the Ministry of Education.

## 4. Logic Model Diagram

The logic model represents diagrammatically the intended outcomes of the Strategic Plan and the complementary causal paths that are understood to contribute to it. The stated intended outcomes are drawn from the Strategic Plan, Te Whāriki and discussions during development of the logic model, which identified increased community capacity as an important and valued additional outcome. It represents the causal processes as involving three complementary streams – one that relates to increased participation in quality ECE, one about strengthening and empowering parents and whānau to play a significant role in their children's early education and development, and one about improving the coherence and integration of services for children.

<sup>1</sup> from Rogers (2003) 'Logic Models' in Mathison, S (ed) (forthcoming) *Encyclopedia of Evaluation*, Sage Publications.

# LOGIC MODEL FOR NGĀ HUARAHI ARATAKI: PATHWAYS TO THE FUTURE:



## 5. Using the Logic Model To Guide Evaluation of the Strategic Plan

It is sometimes useful to distinguish between formative evaluation (usually conducted and reported as something is being implemented, and intended to assist ongoing improvement) and summative evaluation (conducted during and after implementation and reported afterwards to inform decisions about whether to continue this way). There are seven main ways in which the logic model can be used to guide evaluation of the Strategic Plan:

- **Formative evaluation (early stage)**

1. To look for gaps or inconsistencies at the planning stage
2. To identify other factors that might contribute to outcomes and should therefore be included in monitoring and/or evaluation

- **Formative evaluation (during implementation)**

3. To identify other important possible outcomes that should be included in monitoring and/or evaluation
4. To develop criteria, standards and sources of evidence of performance (in terms of processes, outcomes and distribution of outcomes) for monitoring and/or evaluation
5. To provide a consistent framework for reviewing, reporting and planning during implementation
6. To identify gaps in knowledge that should be addressed through an evaluation focused on a particular question

- **Formative and summative evaluation**

7. To test the theory of how the Strategy will work

### 5.1 To look for gaps or inconsistencies at the planning stage

Logic models can be used before collecting any data, through assessing them for logical consistency and adequacy.

For example, it is expected that the development of Distance Education teacher courses will increase the availability of qualified teachers in rural areas (Pathways to the Future: Ngā Huarahi Arataki, p. 12). For this to be successful, people living in these areas will need to enrol, successfully complete the course (including supervised practice) and then decide to remain living in the rural area. This expanded articulation suggests additional activities that will need to be undertaken to achieve the intended outcome.

### 5.2 To identify other factors that might contribute to outcomes and should therefore be included in monitoring and/or evaluation and possibly in strategies

Logic models can be used as a basis for discussion and analysis to identify the other factors likely to influence the achievement of the intended outcomes – either facilitating it or inhibiting it - in addition to the planned activities. It can be useful to identify these, as part of the program logic matrix, to assist planning appropriate activities to address them, and to include them where appropriate in monitoring and evaluation.

For example, one of the intended outcomes of the Strategic Plan is improved collaboration between services for families with young children. Many of these services are in different government ministries, and not addressed specifically in the Strategic Plan, yet the policies and priorities of these other ministries are likely to influence the nature, extent and quality of collaboration.

### 5.3 To develop criteria, standards and sources of evidence of performance (in terms of processes, outcomes and distribution of outcomes) for monitoring and/or evaluation

The logic model provides a simple overview of the whole strategy. It also provides the basis for a more detailed evaluative framework that addresses evaluative criteria, standards of performance and sources of data. Funnell's (1997, 2000) Program Logic Matrix provides such a framework and a partial draft of this, based on available information, is included in section 8.

## LOGIC MODEL FOR NGĀ HUARAHĪ ARATAKI: PATHWAYS TO THE FUTURE:

### **5.4 To identify other important possible outcomes that should be included in monitoring and/or evaluation**

The logic model focuses primarily on the specific intended outcomes linked to the Strategic Plan. Discussions of the logic model can help to surface other desirable policy outcomes that should also be included.

For example – some services succeed in improving families' capacity to be involved in other community activities, and there are important policy implications for this that warrant the inclusion of this outcome in the logic model.

The logic model can also help to identify possible unintended outcomes that are negative – for example, inadvertently reducing participation or quality. These are discussed in section 7.

### **5.5 To identify gaps in knowledge that should be addressed through an evaluation focused on a particular question**

The logic model is based on the best available evidence about likely causal paths. It can also help to identify gaps in knowledge that should be the subject of specific research.

For example – how much increase in fees can be absorbed before it affects participation rates in quality services?

### **5.6 To provide a consistent framework for reviewing, reporting and planning during implementation**

Logic models can be used during implementation – to orient and train new staff; to focus review and planning sessions; to structure monitoring systems and data analysis; and to communicate with external parties such as funders or partner agencies.

### **5.7 To test the theory of how the Strategy will work**

The logic model can also be used to guide a discrete evaluation of the overall Strategy – ideally one which will provide feedback on progress during implementation so that decisions and actions can be taken to reinforce what is working well, and address what is not, and also one that reviews the overall Strategy when it is complete to guide future planning.

## **6. What works for Whom in What Circumstances**

The logic model that has been developed is intended to provide a useful conceptual framework across diverse contexts, but it is likely that empirically the implementation and outcomes of the Strategic Plan will differ in different contexts. When using the logic model for evaluating different ECE services, the evaluation will need to address differences between and within particular contexts.

At least five different contexts need particular attention in the evaluation:

1. Different service types
2. Rural communities, families and services
3. Māori communities, families and services
4. Pasifika communities, families and services
5. Auckland communities, families and services

## LOGIC MODEL FOR NGĀ HUARAHĪ ARATAKI: PATHWAYS TO THE FUTURE:

### 6.1 Different service types

The different service types in ECE can all be mapped onto the same logic model, but what each outcome means, and the activities intended to contribute to this, are likely to systematically differ. For example He Haerenga Whai Hua: The Quality Journey outlines different indicators and strategies for quality in home-based services,

### 6.2 Rural communities, families and services

Rural communities present special challenges in the Strategic Plan. Families are more likely to have geographic and financial accessibility difficulties, and services are more likely to have sustainability and resourcing challenges.

### 6.3 Māori communities, families and services

Māori communities, families and services are a particular focus of the Strategic Plan because of the historically lower participation rates in ECE, the importance of community-based Māori ECE services and umbrella organisations, and the importance of developing curriculum and professional development to ensure all services are culturally responsive.

### 6.4 Pasifika communities, families and services

Pasifika communities, families and services are also a particular focus of the Strategic Plan. They have historically lower participation rates in ECE, with many families lacking experience in using ECE services. Many community-based Pasifika ECE services face particular challenges in terms of financial and administrative sustainability. There is also the need to develop curriculum and professional development to ensure all services are culturally responsive.

### 6.5 Auckland communities, families and services

Auckland has particular challenges because of its population size, age structure and demographics, and the historically lower supply of ECE teachers.

## 7. Negative Program Logic

One of the risks of using logic models is focusing excessively on intended outcomes, and not actively checking for negative outcomes. To counter this, Weiss (1997) has developed the technique of negative program logic – developing an alternative causal model speculating how the planned intervention might inadvertently contribute to undesirable outcomes. Sometimes these undesirable outcomes are simply the reverse of the intended outcomes, and sometimes they introduce additional issues.

The development of the Strategic Plan clearly identified that, while it was intended to increase participation, service quality, and sustainability of services, there is a very real risk that it may contribute to decreased participation, quality and sustainability of services.

## LOGIC MODEL FOR NGĀ HUARAHĪ ARATAKI: PATHWAYS TO THE FUTURE:

The following negative program logic presents this in narrative form

1. Regulations requiring decreased group size and ratios in teacher-led services lead to increased costs of these services as more staff are required

and

2. Requirements for all regulated staff in teacher-led services to be qualified teachers and the flow-on effects of pay parity for kindergarten teachers lead to increased costs of these services as higher salaries are required

Which together contribute to

3. Increased fees for families who use these services to the point where many can no longer afford them (Decreased financial accessibility).

Which leads to

4. Decreased use by many families who can no longer afford to use the services (Decreased participation)

Which leads to

5. Use of informal care instead by families which may be of variable quality (Decreased participation in quality services)

and

6. Reduced financial viability of many teacher-led services, leading to closure (Reduced sustainability)

Which contributes to

7. Reduced numbers of teacher-led services in many areas (Reduced geographic accessibility).

Articulating the risks in the strategic plan in this way can help guide appropriate risk management, including identifying what should be monitored carefully for early warning of these potential problems actually happening.

It is likely that, if these problems do occur, they will occur for particular types of services and particular types of families. Careful analysis of the consequences of funding (both for services and for families) will be required to identify the groups for whom these negative outcomes are more likely. Problems with affordability are more likely, for example, for middle-income families who neither receive significant subsidies directly or to the service they use, nor have sufficiently high incomes to readily absorb additional costs.

The Strategic Plan recognises these risks:

*“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<sup>2</sup>.”*

Careful monitoring will be needed for early warning of any decrease in participation in quality services and research to investigate the level and nature of funding that will be needed.

<sup>2</sup> Pathways to the Future: Ngā Huarahi Arataki, p. 9.

## 8. Draft Program Logic Matrix

Intended Outcome	Activities from the strategic plan that contribute to outcomes	Some current sources of evidence
Parents value ECE		<ul style="list-style-type: none"> <li>Te Mana evaluation</li> </ul>
ECE services are accessible	<p>Working with communities with low participation to gain access to new ECE services through planning and provision of property for new ECE services.</p> <p>Facilitators in Ministry of Education regional offices work with targeted communities to find solutions for providing property, including:</p> <ul style="list-style-type: none"> <li>expanding the Discretionary Grants Scheme (DGS);</li> <li>providing the 'design-and-build' scheme;</li> <li>providing access to land on school sites;</li> <li>converting excess school classrooms;</li> <li>leasing government property (buildings and/or land) to some ECE services;</li> <li>providing government property directly (buildings and/or land) to some ECE services.</li> </ul> <p>Give the Ministry of Education the responsibility for the co-ordination of advice and support for governance, management and professional leadership.</p> <p>Develop innovative solutions to ensure rural communities have access to quality ECE services.</p>	<ul style="list-style-type: none"> <li>Equity funding data on distances travelled to ECE</li> <li>DGS analysis of local area demographics</li> <li>Milestone reports from participation projects</li> <li>Annual July ECE survey - waiting list question</li> <li>Regional office staff and data</li> </ul>
ECE services are sustainable	<p>Provide 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.</p> <p>Introduce funding and regulations that better support quality ECE services to meet the needs of children, parents, families and whānau.</p> <p>Ensure that advice and support for governance, management and professional leadership are available to all ECE services. The Ministry of Education will undertake this work with ECE sector umbrella groups and services.</p> <p>Provide leadership development programmes to strengthen leadership in ECE services.</p>	<ul style="list-style-type: none"> <li>MoE information on licensing, audits and services opening and closing</li> <li>Financial reports to MoE</li> <li>Regional office information</li> <li>Staff resignations from Annual July ECE survey</li> </ul>



## LOGIC MODEL FOR NGĀ HUARAHĪ ARATAKI: PATHWAYS TO THE FUTURE:

Intended Outcome	Activities from the strategic plan that contribute to outcomes	Some current sources of evidence
ECE services are responsive	<p>Provide 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.</p> <p>Introduce funding and regulations that better support quality ECE services to meet the needs of children, parents, families and whānau.</p>	<ul style="list-style-type: none"> <li>• Equity funding evaluation</li> <li>• MoE profile of service types</li> <li>• Annual July ECE survey</li> </ul>
Services meet the cultural and language aspirations of children, parents, whānau, communities	<p>Funding to support responsive ECE services.</p> <p>Work on the responsiveness of teacher education to support all teachers working with Māori/Pasifika children.</p> <p>Research and programs to support quality in Te Reo Māori immersion ECE services; and Pasifika language immersion and bilingual ECE services.</p> <p>Provide leadership development programmes.</p> <p>Develop an implementation plan for the regulation of teacher registration requirements that includes the establishment of mechanisms that allow centres to continue to employ elders and students in training for teacher registration qualifications.</p>	<ul style="list-style-type: none"> <li>• Annual July ECE survey</li> <li>• Census data on languages</li> <li>• MoE profile of service definitions</li> <li>• Pasifika ECE research</li> <li>• ERO reports</li> </ul>

## LOGIC MODEL FOR NGĀ HUARAHĪ ARATAKI: PATHWAYS TO THE FUTURE:

Intended Outcome	Activities from the strategic plan that contribute to outcomes	Some current sources of evidence
More registered teachers in ECE	<p><u>Demand:</u></p> <p>Build on the direction created through the establishment of the Diploma of Teaching (ECE) as the benchmark qualifications for licensing in ECE by 2005, to increase the number of qualified ECE teachers.</p> <p>Extend current requirements for all teachers in kindergartens to be registered to other teacher-led services so that 2007/2010/2012 50%/80%/100% of regulated staff in every teacher-led service are required to be registered teachers.</p> <p><u>Supply:</u></p> <p>Improve attractiveness of career through flow on effects of pay parity for kindergarten teachers.</p> <p>Introduce incentive grants to ECE services to meet some of the costs of having staff upgrade their qualifications.</p> <p>Recognition of Prior Learning schemes to allow those needing to upgrade their qualifications to receive credit for their skills and knowledge.</p> <p>Promote ECE teaching as a career to people who are potentially interested in ECE teaching, and groups that are underrepresented in the ECE teacher workforce.</p> <p>Offer scholarships to attract people into ECE teacher education.</p> <p>Provide mentoring and/or support to students undertaking ECE teacher education.</p> <p>Require 0.1 teacher release for provisionally registered teachers as they work towards full teacher registration.</p> <p>Develop Diploma of Teaching ECE (Pacific).</p> <p>Review progress against teacher registration targets and the effectiveness of policies to achieve these targets, and take further steps as needed.</p> <p>Monitor progress of Māori immersion language immersion ECE services and Pacific Island CE centres in achieving registration targets and take further steps as necessary.</p> <p>Build on work underway with the establishment of the Tertiary Education Commission, the NZ Teachers Council and the development of the Diploma of Teaching ECE (Pacific) to work with teacher education providers to:</p> <ul style="list-style-type: none"> <li>• Develop foundation or bridging courses to help people, particularly Māori and Pasifika peoples, meet entry criteria for teacher education courses</li> <li>• Ensure that ECE teacher education courses support all ECE teachers in the use of Te Reo and Tikanga Māori</li> <li>• Develop teacher education courses that are suitable for ECE teachers who work in Māori immersion services</li> <li>• Develop teacher education courses that meet the needs of distance learners</li> <li>• Develop teacher education courses that allow primary teachers to upgrade their qualifications to ECE teacher qualifications.</li> </ul> <p>Research ECE teacher supply and workforce issues including barriers to teacher education and retention of qualified teachers.</p>	<ul style="list-style-type: none"> <li>• Annual July ECE survey</li> <li>• ECE teacher survey 2003</li> <li>• Tertiary data on enrolments and completions of courses &amp; programmes</li> <li>• Teachers Council data</li> <li>• TeachNZ data</li> </ul>

## LOGIC MODEL FOR NGĀ HUARAHĪ ARATAKI: PATHWAYS TO THE FUTURE:

Intended Outcome	Activities from the strategic plan that contribute to outcomes	Some current sources of evidence
Quality in parent-led services	<p>Research ways to support parent and whānau-led ECE services and develop policies to maintain and enhance quality in these services.</p> <p>Review regulations to support the quality of ECE services where parents and whānau are responsible for providing ECE.</p> <p>Review funding of services where parents and whānau are responsible for providing ECE to promote quality.</p> <p>Provide information and support (such as professional development and other training) to promote the delivery of quality ECE in services where parents and whānau are responsible for providing ECE.</p>	<ul style="list-style-type: none"> <li>Research commissioned by MoE in 2003</li> <li>Early Childhood Development data</li> </ul>
Reduced ratios and group size	<p>Review regulation of ratios and group size so that it supports the provision of quality ECE.</p> <p>Reduce progressively under-two ratios and group size and over-two sessional ratios and group size.</p>	<ul style="list-style-type: none"> <li>Annual July ECE survey</li> <li>Licensing information</li> <li>ERO reports</li> </ul>
Te Whāriki effectively implemented	<p>Legislate Te Whāriki as the curriculum for all ECE services.</p> <p>Review and strengthen the provision of professional development (including a follow-up review) so that it is aligned with the Government's strategic goals and all ECE services have access to professional development that meets their needs.</p> <p>Provide leadership development programmes to strengthen leadership in ECE services.</p> <p>Research ways to better support Te Reo Māori immersion ECE services; and develop policies to maintain and enhance quality in these services.</p> <p>Research ways to better support Pasifika immersion and bilingual ECE services; and develop policies to maintain and enhance quality in these services.</p>	<ul style="list-style-type: none"> <li>ERO reports</li> <li>Professional Development Contracts and evaluation of these</li> <li>Centres of Innovation (COI)</li> </ul>
Quality teaching and learning practices enacted	<p>Build on work such as <i>the Early Childhood Learning and Exemplar Assessment Project</i> to further develop exemplars of effective practice. Research aspects of quality to provide information for the development of quality practices.</p> <p>Develop and implement self-review processes that reflect on quality practices and contribute to the external review processes.</p> <p>Establish six Centres of Innovation on a three-year cycle to showcase excellence and innovation in ECE.</p>	<ul style="list-style-type: none"> <li>ERO reports</li> <li>Professional Development Contracts and evaluation of these</li> <li>Centres of Innovation (COI)</li> </ul>

## LOGIC MODEL FOR NGĀ HUARAHĪ ARATAKĪ: PATHWAYS TO THE FUTURE:

Intended Outcome	Activities from the strategic plan that contribute to outcomes	Some current sources of evidence
Increased participation in ECE	<p>Build on the <i>Promoting ECE Participation</i> project to find and address barriers to ECE participation in local communities.</p> <p>Research to provide information for ongoing policies to address barriers to access and participation.</p> <p>Also see activities associated with preceding outcomes.</p>	<ul style="list-style-type: none"> <li>• Annual July ECE survey</li> <li>• Annual March School survey</li> <li>• Note lack of data on simultaneous participation in more than one type of ECE service</li> </ul>
Parents can identify quality in ECE	<p>Give parents and whānau information about what quality ECE is like.</p>	
Improved quality of ECE	<p>Provide advice and support to improve the quality and responsiveness of existing ECE services.</p> <p>Assign facilitators to work with community-based ECE services identified as lower quality ECE and/or not being responsive to the needs of children, parents, family and whānau. This work will involve linking them into advice and support services.</p> <p>Also see activities associated with preceding outcomes.</p>	<ul style="list-style-type: none"> <li>• Information from advice &amp; support co-ordinators</li> <li>• Evaluation of equity funding</li> </ul>
Increased participation in quality ECE	<p>Research to provide information for policies to encourage ECE participation at levels that will achieve the best results for children.</p> <p>Provide funding to support access to affordable, quality ECE services.</p> <p>Also see activities associated with preceding outcomes.</p>	<ul style="list-style-type: none"> <li>• Evaluation of the ECE participation project</li> <li>• Synthesis of info from preceding outcomes</li> </ul>
Coherence of education 0-8 years	<p>Research how and when to add English language for children from non-English language immersion ECE, develop policies and resources to support continuity in education, and implement programmes to smooth transitions between non-English ECE and English schooling.</p> <p>Better align policy between early intervention in ECE and special education in schools.</p> <p>Smooth transitions from ECE to school through</p> <ul style="list-style-type: none"> <li>• <i>Promoting better understanding between ECE teachers and primary teachers about the links between Te Whāriki and the NZ Curriculum Framework</i></li> <li>• <i>Promoting better understanding between ECE teachers and primary teachers about the pedagogical approaches in ECE and schools</i></li> </ul> <p>Distributing information about effective transition from ECE to school.</p>	<ul style="list-style-type: none"> <li>• Competent children study</li> <li>• Research into transitions to school</li> <li>• Evaluation of Special Education 2000</li> </ul>

## LOGIC MODEL FOR NGĀ HUARAHĪ ARATAKI: PATHWAYS TO THE FUTURE:

<b>Intended Outcome</b>	<b>Activities from the strategic plan that contribute to outcomes</b>	<b>Some current sources of evidence</b>
Integrated services for children 0-8 years	Provide parent support and development and other social services from some ECE service sites. Build on current work between Ministries of Education, Health and Social Development to improve links in early years' services. Distribute information to parents and ECE services to help them better link with other services of children between birth and 8 years.	<ul style="list-style-type: none"> <li>• Annual July ECE survey</li> </ul>
Collaborative relationships between ECE and schools; ECE and other family services; ECE and families/whānau	Also, see activities associated with preceding outcomes. Provide support for ECE services to strengthen links with whānau, hapu and iwi. Provide support for ECE services to strengthen links with local Pasifika and other ethnic communities. Provide support for ECE services to involve parents and whānau in teaching, learning and assessment. Link ECE and family policy such as family literacy, books in homes. Develop a policy framework for parent support and development that links it with ECE service provision.	<ul style="list-style-type: none"> <li>• ERO reports</li> <li>• Evaluation reports from other government agencies</li> <li>• Centres of Innovation</li> <li>• Annual July ECE survey</li> </ul>
Parents/Whānau are strengthened to play a significant role in their children's early education and development	See activities associated with preceding outcomes.	<ul style="list-style-type: none"> <li>• Research into quality in parent-led services</li> </ul>
Increased community capacity to engage in other community activities	See activities associated with preceding outcomes.	<ul style="list-style-type: none"> <li>• TPK/MPIA/MSD evaluations of community capacity building projects</li> </ul>
Parents can engage in education, training and employment if they choose	See activities associated with preceding outcomes.	<ul style="list-style-type: none"> <li>• Census</li> <li>• HLFS (identifies childcare issues but not who is a parent)</li> <li>• Ministry of Social Development data</li> </ul>
Children develop and enhance strong learning foundations including building a strong sense of identity.	See activities associated with preceding outcomes.	<ul style="list-style-type: none"> <li>• School achievement data eg. School Entry Assessment</li> <li>• ERO reports</li> </ul>

## Logic Model References

Funnell, S. (1997) 'Program logic: an adaptable tool' *Evaluation News and Comment* Vol 6, No 1, 5-17.

Funnell, S. (2000) 'Developing and Using A Program Theory Matrix for Program Evaluation' in Rogers, P.J., Petrosino, A.J., Hacsí, T. and Huebner, T.A. (eds). (2000) *Program Theory Evaluation: Challenges and Opportunities*. (New Directions in Evaluation series). San Francisco: Jossey-Bass.

Rogers, P.J. and McDonald, B.M. (1999) "Three Achilles Heels of Program Theory Evaluation" *Proceedings of the 1999 International Conference of the Australasian Evaluation Society*, Perth.

Weiss, C.H. (1997) *Evaluation*. (2nd ed). Upper Saddle River, N.J. Prentice Hall.