



**Te Tāhuhu o
te Mātauranga**
Ministry of Education

Cost to serve item

November MAG Hui



**Te Kāwanatanga
o Aotearoa**
New Zealand Government

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Background

The Ministry is currently working through procuring financial modelling on costs-to-serve on the MAG's behalf.

The brief of this work is for the supplier to design and build a financial model with the capability to quantify the potential (illustrative) impact of pulling funding levers across differing service typologies, based on modelled cost-to-serve for the typologies. This is important in providing illustrations of how changes could impact different services.



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Steps and deliverables

Steps in the work

Steps in the work include:

- identifying data and assumptions available,
- building a picture of the current cost to serve for the different service typologies. This will involve analysing and modelling funding data and costs data for the different services, filling data gaps with either assumption-driven imputation, or user-driven assumptions. Any assumptions and methodological decisions will be captured in a companion assumptions book
- Following a current cost-to-serve or “status quo” model, a scenario model will be developed where users can input assumed changes to funding settings to examine the impact of funding changes on the service typologies, considering their cost-to-serve,

Input from the MAG will be critical in early stages in confirming desired outputs, and in creating engagement connections when determining assumptions in the lack of concrete data.

Deliverable	Indicative Date*
<u>Initial Status Quo Model</u> An Excel-based (or similar alternative) model, to examine current cost-to-serve and funding/revenues under current settings for up to 10 different service typologies/archetypes determined by the MAG and the Ministry. • Create a model where different typologies can be selected to examine current funding streams (revenues) and costs-to-serve, for different typologies. • Using available information and consulting with agency contacts to agree the basis for an assumption driven approach to the modelling. • Identify where there are likely to be gaps in knowledge to inform assumptions and agree overall modelling approach. • Include within the model the capacity to complete sensitivity tests for key assumptions. • Produce a set of modelled typologies based on current state settings (illustrative).	19 December
<u>Assumptions Book Draft 1</u> A data dictionary and assumptions book documenting data sources, calculations, and assumptions underpinning modelling. This deliverable is for a version of the assumptions book which accompanies the status-quo model. Supplier will: • Manipulate data which is provided by agencies to inform key assumptions, and checking back with Ministry of Education (and MAG representatives) on draft approach. • Working with the Ministry (and/or MAG representatives) on finalising assumptions which feed into the Status Quo. • Documenting the assumptions in a companion document to the modelling tool and outputs.	19 December
<u>Scenario Model</u> A dynamic Excel-based (or similar alternative) model with user-defined changes to funding levers, in order to see the impacts on the different typologies of early childhood education services. Supplier will: • After likely funding levers are finalised, integrating these into the impact modelling as user-manipulated variables to test different scenarios and the impact these would have compared to status quo. • These may involve impacts of changing distribution of the current funding streams, but may involve building in other levers/data	5 February
<u>Assumptions Book Final</u> A data dictionary and assumptions book documenting data sources, calculations, and assumptions underpinning modelling. This deliverable is for a final version of the assumptions book which contains assumptions for the status-quo model and the scenario modelling products. Supplier will: • Working with the Ministry (and/or MAG representatives) on finalising assumptions which feed into the scenario modelling. • Documenting the assumptions in a companion document to the modelling tool and outputs. • This deliverable is for a version of the assumptions book which has sections related to the original status-quo model, and the scenario modelling output.	5th February
<u>Final Outputs</u> Results from modelling specific scenarios defined by the Ministerial Advisory Group in a ready-for-use format, for inclusion in the Ministerial Advisory Group's final report. Supplier will: • Provide summaries of several specific scenarios which will be requested by the Ministerial Advisory Group in a report or excel-based output. • Provide the final dynamic model with instructions on how to use in case additional scenarios are requested/considered.	Final output 20th February, support through until 6 March



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Current status

Procurement Process

- The Ministry is in the final stages of the procurement process.
- We aim to have a contract signed as early as possible during the week ending 14th November (a week later than desired timeframe).
- Our thanks to Linda for her involvement in this process to ensure that the MAG's intention and vision were maintained in the commissioning.

Indicative dates for delivery are:

- Initial Status Quo Model and Assumptions Book Draft 1: **19 December 2025**
- Scenario Model and Assumptions Book Final: **5 February 2026**
- Final output 20th February, support through until: **6 March 2026**

Typologies

Typology features

Representative typologies will be selected based on five features:

- **Service type:** as defined within the Ministry's ECE Directory
- **Service size:** measured by Licensed Places
- **Under-2 capacity:** Measured by Licensed Places for children Under 2
- **Operating hours:** average daily operating hours
- **Location:** based on Statistics NZ Urban/Rural measures

Grouping typology features

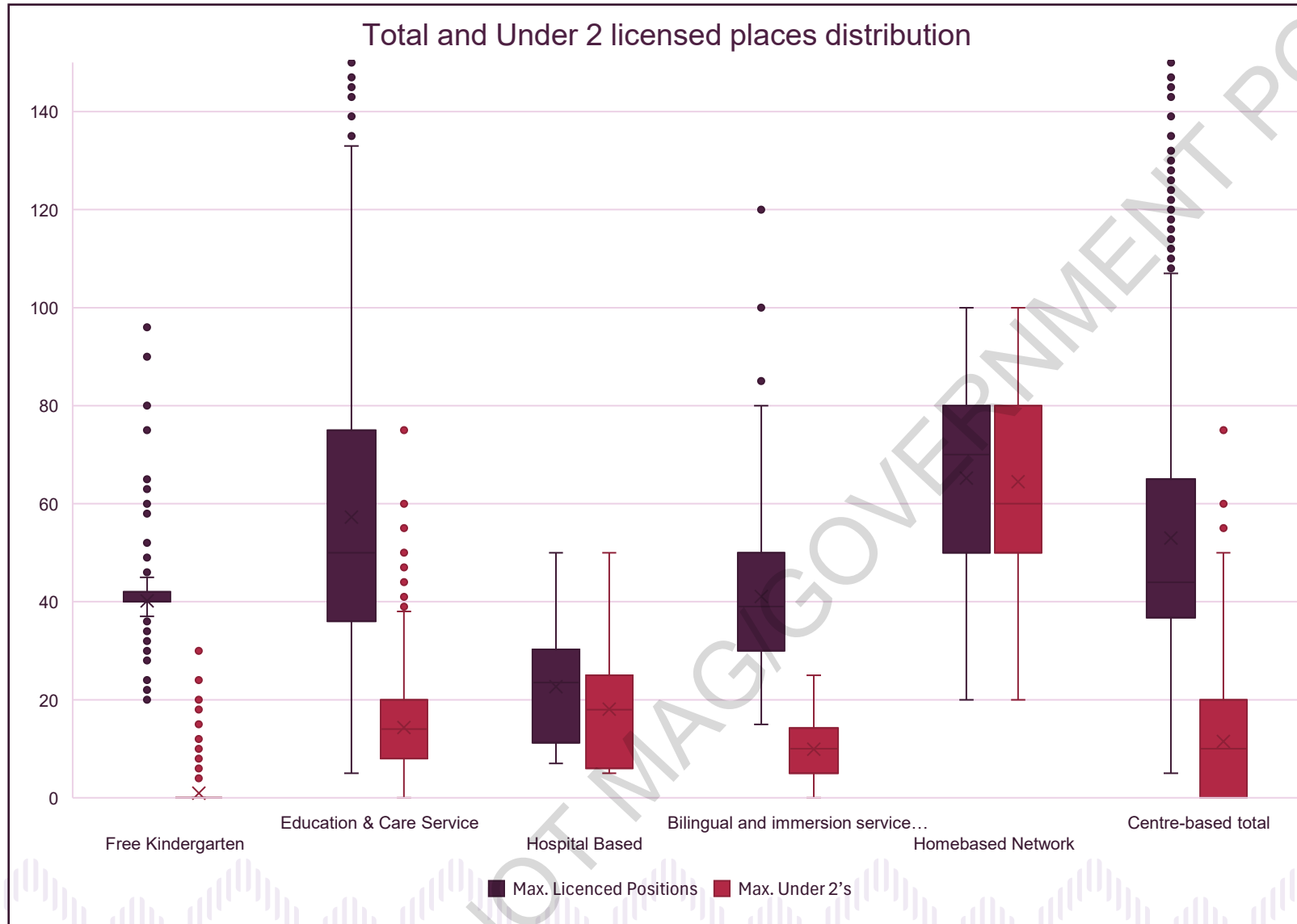
Each dimension has a wide range of values, which would create many possible combinations. To keep typologies practical and representative, we've grouped values within each dimension into broader categories.

These **initial** groupings were informed by the distribution of services and intuitively adjusted.

- **Service size: (licensed places):** Small (0 to 30), Medium (31 to 70), and Large (>70)
- **Under 2s provision (Under 2s places):** Low (0 to 5), Moderate (6 to 20), High (>20)
- **Average daily operating hours:** Short days (0 to 7 hours), Long days (>7 to 11 hours), and extended hours (>11 hours)
- **Rural/Urban:** Low-population areas are areas with less than 10,000 residents (includes Small Urban Areas, Rural Other and Rural Settlements) and High population areas are areas with more than 10,000 (includes Medium, Large, and Major Urban Areas).
- **Service type:** As listed in the ECE Directory (kindergarten, education and care, home-based etc.) although with the newer Bilingual and Immersion service types grouped together.

There may be opportunities to better align groups with assumptions during the data discovery and assumptions-building phase.

Grouping typology features



Licensed places

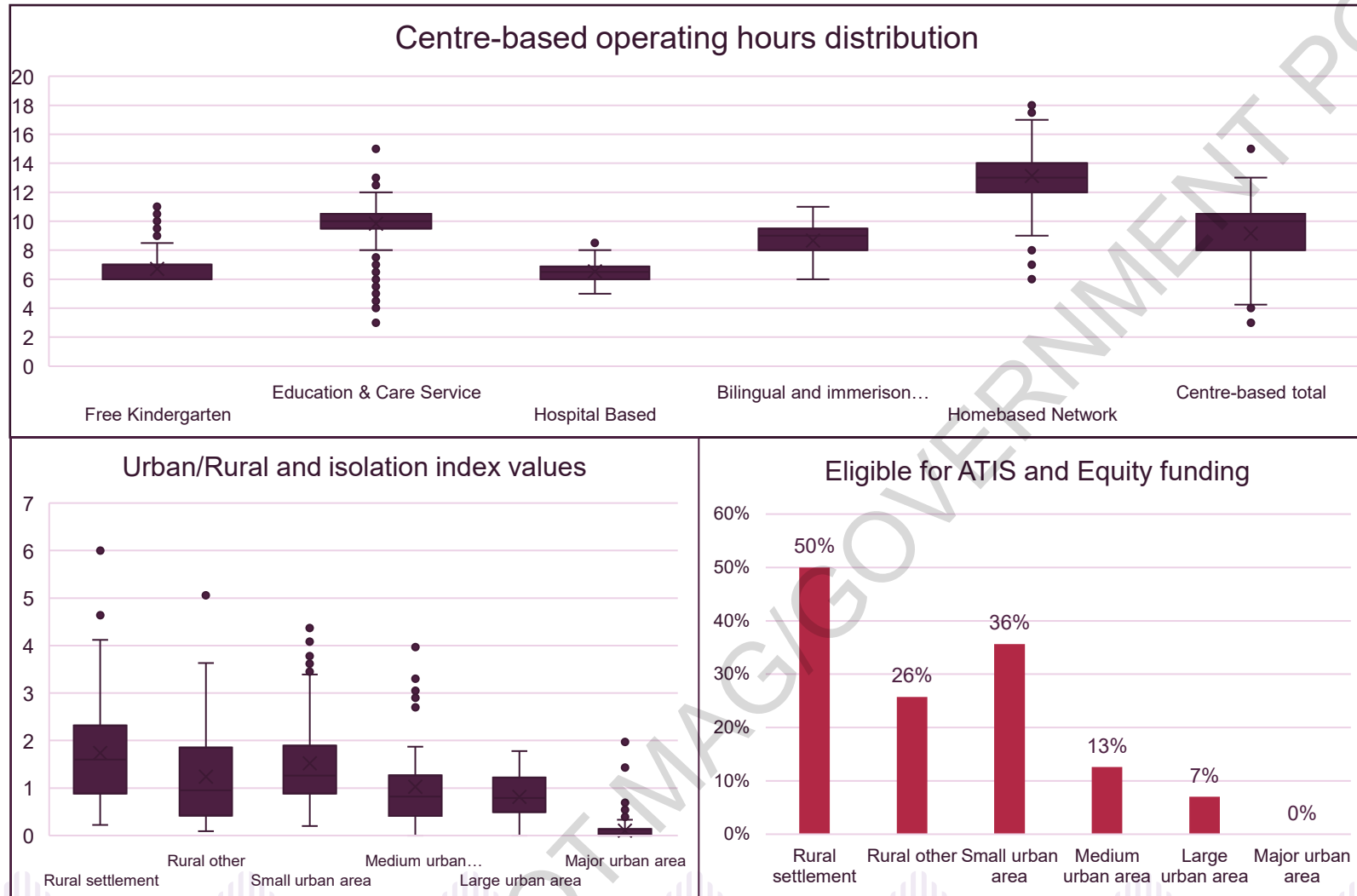
- Small (0-30 places): based roughly on the lower quartile (18% of services)
- Medium (31-70 places) upper quartile for centre-based services (61% of services)
- Large (71+ places): above Medium (21% of services)

Under 2's provision

- Low (0 to 5 places): based roughly on the lower quartile of education and care services (36% of services)
- Moderate (6 to 20 places): based roughly on the upper quartile for centre-based services (46% of services)
- High (21+ places): above Moderate (17% of services)

note: above percentages are for teacher-led centre-based services.

Grouping typology features



Operating hours

- Short days (up to 7 hours inclusive): Roughly the lower quartile for centre-based services (7% of total services)
- Long days (up to 11 hours inclusive): Upper quartile for centre-based services (73% of total services)
- Extended hours: above Long days (20% total of services)

Rural/Urban groupings

- Low population areas (areas with less than 10,000 residents): 25% or more of these services are eligible for Equity Funding component D
- High population areas (areas with more than 10,000 residents): 13% or less of these services are eligible for Isolation Equity Funding component D

Typology trade-offs and criteria

Across the grouped dimensions, there are 105 typology combinations, though they vary in prevalence

Selecting ten typologies will mean not all features or combinations can be represented.

Below are a few considerations to support typology selection:

- **Coverage:** representation across the sector and within individual service types.
- **Policy sensitivity:** covers a variety of funding levers
- **Alternative Models:** tests impacts across a variety of features

Snapshot of the top 20 most prevalent typologies

Number	Service type	Size	Under 2s provision	Operating hours	Urban/Rural Grouping	Percentage total services	Share of service type	Count
1	Education & Care Service	Medium	Moderate	Long days	High-population areas	21%	29%	747
2	Education & Care Service	Large	High	Long days	High-population areas	11%	15%	392
3	Free Kindergarten	Medium	Low	Short days	High-population areas	10%	51%	345
4	Education & Care Service	Medium	Moderate	Long days	Low-population areas	7%	9%	235
5	Education & Care Service	Medium	Low	Long days	High-population areas	6%	8%	200
6	Education & Care Service	Large	Moderate	Long days	High-population areas	5%	7%	166
7	Education & Care Service	Small	Low	Long days	High-population areas	4%	6%	147
8	Education & Care Service	Small	Moderate	Long days	High-population areas	3%	4%	110
9	Homebased Network	Large	High	Extended hours	High-population areas	3%	45%	106
10	Free Kindergarten	Medium	Low	Short days	Low-population areas	2%	13%	85
11	Free Kindergarten	Medium	Low	Long days	High-population areas	2%	12%	83
12	Homebased Network	Medium	High	Extended hours	High-population areas	2%	33%	78
13	Education & Care Service	Medium	High	Long days	High-population areas	2%	3%	77
14	Bilingual and Immersion service types	Medium	Moderate	Long days	High-population areas	1%	41%	53
15	Education & Care Service	Small	Low	Long days	Low-population areas	1%	2%	45
16	Education & Care Service	Large	High	Long days	Low-population areas	1%	2%	44
17	Education & Care Service	Small	Moderate	Long days	Low-population areas	1%	2%	43
18	Education & Care Service	Small	Low	Short days	High-population areas	1%	2%	41
19	Education & Care Service	Large	Moderate	Long days	Low-population areas	1%	1%	38
20	Education & Care Service	Medium	Low	Short days	High-population areas	1%	1%	38

Option 1: Maximum total coverage

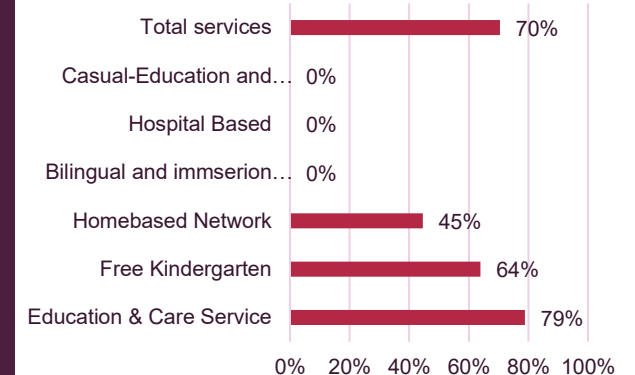
Number	Service type	Size	Under 2s provision	Operating hours	Urban/Rural	Sector total prevalence	Sub-sector prevalence	Count
1	Education & Care Service	Medium	Moderate	Long days	High-population areas	21%	29%	747
2	Education & Care Service	Large	High	Long days	High-population areas	11%	15%	392
3	Free Kindergarten	Medium	Low	Short days	High-population areas	10%	51%	345
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8	Education & Care Service	Small	Moderate	Long days	High-population areas	3%	4%	110
9	Homebased Network	Large	High	Extended hours	High-population areas	3%	45%	106
10	Free Kindergarten	Medium	Low	Short days	Low-population areas	2%	13%	85

Service type	Size	Under 2s provision	Operating hours	Urban/Rural	Covered features
Education & Care	• Small • Medium • Large	• Low • Moderate • High	• Long days	• High-population areas • Low-population areas	10
Free Kindergarten	• Medium	• Low	• Short days	• High-population areas • Low-population areas	6
Homebased Network	• Large	• High	• Extended hours	• High-population areas	6
Total					21

Supporting information

- Represents 70% of teacher-led services
- Does not include bilingual and immersion, and hospital-based services.
- Covers a limited range of service features (21)

Coverage: Option 1



Option 2: Representation across service types

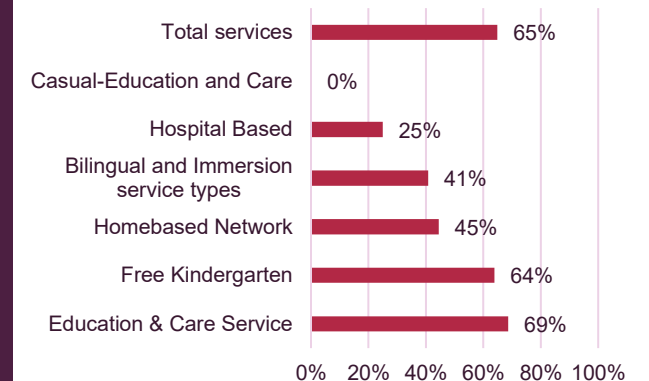
Number	Service type	Size	Under 2s provision	Operating hours	Urban/Rural	Sector total prevalence	Sub-sector prevalence	Count
1	Education & Care Service	Medium	Moderate	Long days	High-population areas	21%	29%	747
2	Education & Care Service	Large	High	Long days	High-population areas	11%	15%	392
3	Free Kindergarten	Medium	Low	Short days	High-population areas	10%	51%	345
4	Education & Care Service	Medium	Moderate	Long days	Low-population areas	7%	9%	235
5	Education & Care Service	Medium	Low	Long days	High-population areas	6%	8%	200
6	Education & Care Service	Large	Moderate	Long days	High-population areas	5%	7%	166
7	Homebased Network	Large	High	Extended hours	High-population areas	3%	45%	106
8	Free Kindergarten	Medium	Low	Short days	Low-population areas	2%	13%	85
9	Bilingual and Immersion service types	Medium	Moderate	Long days	High-population areas	1%	41%	53
10	Hospital Based	Small	Moderate	Short days	High-population areas	0%	25%	5

Service type	Size	Under 2s provision	Operating hours	Urban/Rural	Covered features
Education & Care	• Medium • Large	• Low • Moderate • High	• Long days	• High population areas • Low population areas	9
Free Kindergarten	• Medium	• Low	• Short days	• High-population areas • Low population-areas	6
Homebased Network	• Large	• High	• Extended hours	• High-population areas	5
Bilingual and Immersion service types	• Medium	• Moderate	• Long days	• High-population areas	5
Hospital-based	• Small	• Moderate	• Short days	• High-population areas	5
Total					30

Supporting information

- Represents 65% of total services.
- Covers a greater range of service types (and therefore funding levers).
- Includes a greater range of service features (30)

Coverage: Option 2



Option 3: Capturing a variety of features

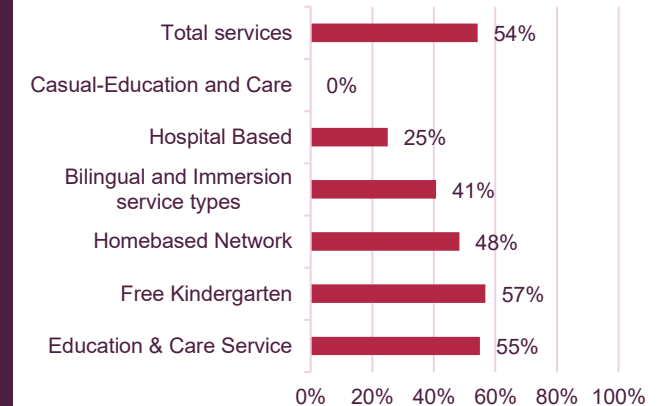
Number	Service type	Size	Under 2s provision	Operating hours	Urban/Rural	Sector total prevalence	Sub-sector prevalence	Count
1	Education & Care Service	Medium	Moderate	Long days	High-population areas	20.8%	29%	747
2	Education & Care Service	Large	High	Long days	High-population areas	10.9%	15%	392
3	Free Kindergarten	Medium	Low	Short days	High-population areas	9.6%	51%	345
4	Education & Care Service	Medium	Moderate	Long days	Low-population areas	6.5%	9%	235
5	Homebased Network	Large	High	Extended hours	High-population areas	2.9%	45%	106
6	Bilingual and Immersion service types	Medium	Moderate	Long days	High-population areas	1.5%	41%	53
7	Free Kindergarten	Small	Low	Short days	Low-population areas	1.0%	5%	37
8	Education & Care Service	Small	Low	Short days	Low-population areas	1%	1%	20
9	Homebased Network	Medium	High	Extended hours	Low-population areas	0.3%	4%	9
10	Hospital Based	Small	Moderate	Short days	High-population areas	0.1%	25%	5

Service type	Size	Under 2s provision	Operating hours	Urban/Rural	Covered features
Education & Care	• Small • Medium • Large	• Low • Moderate • High	• Short days • Long days	• Low-population areas • High-population areas	11
Free Kindergarten	• Small • Medium	• Low	• Short days	• Low-population areas • High-population areas	7
Homebased network	• Medium • Large	• High	• Extended hours	• Low-population areas • High-population areas	7
Bilingual and Immersion service types	• Medium	• Moderate	• Long days	• High-population areas	5
Hospital-based	• Small	• Moderate	• Short days	• High-population areas	5
Total					35

Supporting information

- Represents 54% of total services.
- Covers a greater range of service types and funding levers.
- Covers the greatest range of service features (35)

Coverage: Option 3



Summary questions

- Do any of the presented options stand out as an initial starting point?
- Are there any variations we should explore further?
- Is there any feature groupings (e.g., Large being 71+ places) that seem odd?



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He mea tārai e mātou te mātauranga
kia rangatira ai, kia mana taurite ai ōna huanga.

We shape an education system that delivers
equitable and excellent outcomes.



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