

Regulatory Impact Statement: New Equity Index for Early Childhood Education: Access to data

Coversheet

Purpose of Document	
Decision sought:	This analysis supports final Cabinet policy decisions seeking agreement to permit Statistics NZ to disclose to the Ministry of Education (the Ministry) service-level socio-economic data for an Equity Index for early childhood education services.
Advising agencies:	<i>Ministry of Education</i>
Proposing Ministers:	<i>Minister of Education</i>
Date finalised:	<i>6 March 2023</i>
Problem Definition	
<p>In late 2019, the Minister of Education signalled to Cabinet that a new Equity Index, similar to the one developed for schooling, will be used to allocate equity-focused funding in early childhood education (ECE) [SWC-19-MIN-0122 refers].</p> <p>A new Equity Index for ECE is under development and is derived from socio-economic variables. It is calculated inside Statistics NZ's Integrated Data Infrastructure (IDI) using individual-level socio-economic indicators. Results are aggregated to a service-level to assign an index number that represents the socio-economic status of all the children that attended a service.</p> <p>In December 2022, Statistics NZ informed the Ministry that ECE service-level data outputs from the IDI, including an Equity Index, could not be disclosed to the Ministry.</p> <p>The new Data and Statistics Act 2022 (the Act), enacted in August 2022, restricts Statistics NZ from disclosing data related to private organisations, which includes ECE services. ECE service-level data could be disclosed if there was consent from those services. Under the previous Statistics Act 1975, the same data could have been disclosed with the consent from the government agencies who supplied the source data.</p> <p>This restriction does not apply to schools. Under the Act, school boards are considered public sector agencies and Statistics New Zealand can disclose data related to schools within its usual confidentiality arrangements.</p> <p>This means that the Ministry would be unable to obtain the data with which to calculate the equity funding allocations to each ECE service using the new Equity Index model. While funding would still be provided to ECE services, either under the current or using a modified methodology, equity funding allocations would be less accurate and current than under the new approach.</p>	
Executive Summary	
Due to an unexpected impact of the new Act, Statistics NZ is unable to disclose the socio-economic index at an ECE service level to the Ministry. Permitting Statistics NZ to disclose	

this information would allow the Ministry to design a new Equity Index for ECE and a method for allocating funding based on the index.

A new Equity Index would provide a more accurate and nuanced method for directing equity-focused funding to ECE services. This funding enables access to ECE for children at services with higher proportions of attendees from low socio-economic backgrounds by improving affordability and the quality of early learning. Funding would be targeted to ECE services based on an accurate and up-to-date representation of the socio-economic characteristics of their attendees.

The technical development of the ECE Equity Index has been underway since 2019 but was paused for a year from mid to late 2021 due to COVID restraints and the need to focus technical development on the schooling equity index for earlier implementation.

This RIS supports a Cabinet paper being considered at the Legislative Committee on 16 March 2023 that seeks agreement to this proposal and to the legislative provisions being included in a Bill to be introduced to Parliament in late March 2023.

Ministry officials have engaged with Statistics NZ and the Office of the Privacy Commissioner on options to address this issue, including investigating whether the Government Statistician could authorise publication or disclosure of the Equity Index data to the Ministry under section 39(2) of the new Act.

Preferred approach

The preferred option is to include a narrowly worded provision in the Education and Training Act 2020, to allow Statistics NZ to disclose service level data generated for the new Equity Index for ECE to the Ministry. This option is identified as Option Three in this document.

Option Three provides a more accurate and nuanced Equity Index that better reflects the socio-economic status of children attending ECE services. 9(2)(f)(iv)

This is both the Ministry and Statistics NZ's preferred option.

Other options considered

The Ministry explored several approaches to developing the new Equity Index for ECE by aggregating the data in different ways so it can be outputted from the IDI without contravening the requirements of the Act. These approaches would result in a less accurate index and would significantly delay its design.

Officials also considered seeking consent from each ECE service to disclose their data. However, there are around 4,500 services in the early learning system, with around 100 new services entering the system each year on average, which the Ministry would need to obtain consent from. The consent process would be administratively complex placing additional compliance requirements on ECE services. It could potentially deprive the children of additional support, should consent not be given or be delayed. Additionally, further design work would be required to develop an index that could exclude services that do not consent.

There are very limited privacy implications for children attending ECE services and their families, which will be carefully managed

A key objective of this work is that the privacy of children and their families will be protected.

The proposed amendment would allow Statistics NZ to disclose data at the ECE service level. It would not provide any data about individual children or families.

There are two specific privacy issues to be managed. Firstly, there may be a small number of services with very low enrolments, which could make it possible to infer the socio-economic status of children or their families from the socio-economic index number. Statistics NZ has standard protections about releasing small sample sizes, and in addition to that the Ministry is analysing different scenarios to ensure that the final index could not be used in this way.

Secondly, a small number (about 3%) of ECE services are sole traders. This raises some additional privacy issues about their status as individuals rather than organisations. The Ministry will work with Statistics NZ and the Office of the Privacy Commissioner to ensure the privacy rights of sole traders are not compromised.

Limitations and Constraints on Analysis

Access to data is a key limitation of this analysis

Unfortunately, the key limitation to this analysis is that the Ministry is unable to access current service-level data from the IDI to support quantitative analysis of the options in this RIS, particularly the options relating to the new Equity Index model and its methodology. Without this data, quantitative analysis would likely be set at a Census meshblock-level or above which would not enable the new Equity Index approach (Option 3) at service-level to be fully analysed or fairly compared. The key benefit and advantage of the new approach lies in calculating an index based on service-level data in the IDI that is drawn from individual-level sub-data to provide a more granular view of socio-economic status and disadvantage. To achieve this, the Ministry seeks Cabinet's decisions to enable it to access this data.

Previous decisions by Ministers

In 2019, the previous Minister of Education signalled to Cabinet that a new Equity Index, similar to the one developed for schooling, will be used to allocate equity-focused funding in early childhood education.

The Government's intent is that the current methodology for calculating funding allocations to ECE services (that is effectively based on the old schooling decile system) is to change to an index-based methodology. This would be similar to the new school Equity Index system that came into effect in January 2023. This does not constrain our options analysis, however, it does effectively eliminate the status quo as a potential outcome.

Timeframe limitations

To avoid undertaking a separate legislative process to amend the Education and Training Act 2020, which would result in the Act being amended twice in 2023, the Minister agreed to propose including an amendment in the current Education and Training Amendment Bill (Option 3) (the Bill). The Bill is due for introduction to the House in late March 2023 with a view to passing in August 2023. Due to the timeframes necessary to seek decisions and incorporate any legislative proposals into this Bill, officials have had limited time to fully analyse the policy options available to address this issue.

Limitation on public consultation of the options

The Ministry does not consider that public or targeted consultation of this issue and the options is necessary as it relates to an inter-Government agency process and is technical in nature. The Ministry acknowledges, however, that there are limited potential privacy implications with the legislative option (Option 3) and revised methodologies (Option 4) and the Ministry has engaged with Statistics NZ and the Office of the Privacy Commissioner to ensure that the privacy implications are mitigated, in particular for the legislative proposal (Option 3).

The Ministry's Sector Reference Group for the Equity Index work has not been consulted as it was suspended during COVID to enable the Ministry to focus on the Government's pandemic response. The Group is not due to re-convene until early March 2023, which has not provided sufficient time to engage them on this issue and seek their input on the options.

Overall impact of these limitations

The proposed amendment would allow the Ministry to receive a new equity index for ECE, which in turn would allow the Ministry to develop a new approach to funding services according to the socio-economic make-up of their enrolments. Prior to receiving the data and completing the policy design on a new funding approach, the Ministry cannot provide a quantitative assessment of the population-level impacts of this change.

Responsible Manager(s) (completed by relevant manager)

Vic Johns

Policy Director

ECE Policy

Te Pou Kaupapahere

Ministry of Education



6 March 2023

Quality Assurance (completed by QA panel)

Reviewing Agency: Ministry of Education

Panel Assessment & Comment: The Ministry of Education's Quality Assurance Panel has reviewed the Regulatory Impact Statement "New Equity Index for Early Childhood Education: Access to data" produced by the Ministry of Education and dated 28 February 2023. The panel considers that it partially meets the Quality Assurance criteria.

The statement makes a convincing case for the preferred option which will support the development of a new allocation methodology that best supports socio-economically disadvantaged children and families in early learning. The statement coherently puts forward evidence and analysis for an option that more accurately assesses socio-economic

disadvantage at a service level to allocate equity funding with low compliance costs to services and the Ministry. However, given the time constraints this proposal has been developed under there has not been an opportunity to gather and reflect stakeholder views on this proposal.

Proactively Released

Section 1: Diagnosing the policy problem

What is the context behind the policy problem and how is the status quo expected to develop?

The necessity of equity funding in early childhood education (ECE)

1. Our education system does not adequately support children and students from low socio-economically backgrounds to succeed. Unlike other OECD countries, New Zealand has not narrowed the gap in performance between students from low socio-economic backgrounds and other students.
2. The Ministry currently has two equity-focused funding mechanisms for reducing disparities due to disadvantage in ECE: Equity Funding (Components A and B), and Targeted Funding for Disadvantage (TFFD). This funding is provided to early learning services that have been assessed as having a high proportion of children from low socio-economic backgrounds. The total funding was \$64.3 million in 2020/21, which is approximately 3% of total ECE funding.
3. The purpose of these funding streams is to enable access to ECE by improving its affordability and to improve the quality of early learning for children at services with high concentrations of children from low socio-economic backgrounds. Components A and B are currently allocated to services with an equity index of between one and four where each index level is meant to represent ten percent of ECE services (which notes there is a total of ten levels, similar to the school decile system). Currently, services with an index of five or more receive no equity funding, even though some may have children from low socio-economic backgrounds attending. The allocation of TFFD is linked to MSD benefit data.
4. ECE services that receive equity-focused funding use it to increase access for families (eg by reducing fees, providing transport, providing food) and improving quality (eg purchasing additional resources, excursions, more staff). Ensuring equity in ECE service provision is important. Children from low socio-economic backgrounds tend to benefit most from quality ECE.¹ Māori and Pacific families are overrepresented in low SES communities. ECE enrolments from Māori and Pacific children have declined to a greater extent than total enrolments.

Early Learning Action Plan 2019-2029 He Taonga te Tamaiti

5. From 2016-2018, the Ministry undertook a review of education funding systems for early childhood education, ngā Kōhanga reo and schooling.
6. Following this review, a Ministerial Advisory Group (MAG) was appointed in April 2018 to advise the Minister of Education on the development of the [Early Learning Action Plan 2019-2029 He Taonga te Tamaiti \(ELAP\)](#). The MAG was empowered to consider any matter relating to the early learning sector, including policies around funding, regulation, support and the curriculum. Consultation on the draft ELAP ran from November 2018 to March 2019.
7. Action 2.1 of the ELAP is to “review equity and targeted funding to ensure that they best support children to benefit from access to high quality early learning experiences”.

¹ Reference: van Huizen, T., & Plantenga, J. (2018). [Do children benefit from universal early childhood education and care? A meta-analysis of evidence from natural experiments](#). *Economics of Education Review*, 66, 206-222

Consultation on the draft ELAP showed a high degree of public support (97 percent) for this action.

8. The Ministry is reviewing existing forms of equity-focused funding in early learning in response to this action.

The Government seeks to change the current ECE equity-funding targeting mechanism to an Equity Index similar to the one developed for schooling

9. Since approximately 2016, the Ministry has been developing a replacement for the decile funding system with an index that based on the socio-economic characteristics of each child in the IDI.
10. In September 2019, Cabinet agreed in principle to remove the decile system and implement the Equity Index in school funding. The Equity Index for schooling is a statistical model developed to estimate the relationship between socio-economic advantage and educational achievement. The new Equity Index for schooling was implemented in January 2023.
11. Alongside the decisions on schooling in 2019, the Minister of Education signalled to Cabinet that a new Equity Index, similar to the one developed for schooling, will be developed for early childhood education (ECE) [SWC-19-MIN-0122 refers].
12. The technical development of the index has been underway since 2019 and has involved developing the analytical methodology for determining the index and associated funding allocation model; and exploring the ECE-specific technicalities that were not present in the schooling index.
13. The Equity Index project was paused from mid to late 2021 until mid-2022 due to COVID restraints and the need to focus technical development on the schooling equity index due to the earlier implementation.

A new Equity Index for ECE is intended to better describe socio-economic disadvantage and target funding support, replacing the old decile-based system

The existing modelling approach

14. The old decile system for schools was based on the socio-economic characteristics of the area students came from. The decile calculation used student addresses to determine their 'neighbourhoods' (Census meshblocks), then used census data of these meshblocks to infer the socio-economic makeup of the school (based on five socio-economic variables). This 'neighbourhood' level analysis meant that differences within communities and neighbourhoods could be 'hidden' and give a less accurate picture of the actual challenges faced by children from those communities.
15. To determine the allocation of funding to each service, the existing Equity Index for ECE uses five socio-economic factors from the 2006 Census to calculate the level of disadvantage of children attending a service. The calculation is conducted at a meshblock level, with services' Equity Index scores calculated using the corresponding meshblock scores of their enrolled children.
16. Given the age of this data and shifts in population, continuing with the current approach to calculating an Equity Index is unlikely to accurately reflect the distribution of socio-economic disadvantage in New Zealand.

A new Equity Index approach for schooling and ECE

17. The current approach to designing the new ECE equity funding model adopts the approach used for the schooling index. However, in response to the Sector Reference Group's preference for a methodology which does not rely on NCEA achievement as an outcome measure, the analytical methodology for ECE was changed to Principal Component Analysis (PCA). Unlike regression methodology, which is used in schooling, PCA is a more descriptive technique that does not have an outcome variable. PCA was found to be a robust approach that correlates strongly with the regression methodology used in the schooling Equity Index.
18. The new Equity Index for ECE is based on the socio-economic characteristics of children and their families with the current iteration derived from 17 variables. The new Index is expected to be able to provide a far more accurate and nuanced description of the distribution of socio-economic disadvantage in New Zealand. 9(2)(f)(iv) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
19. The provision of socio-economic data at service-level, aggregated across multiple variables, enables the Ministry to direct funding to ECE services in line with the socio-economic status of the children that attended at each service. The use of this data has been consulted on as part of work on the new Equity Index for ECE and will continue to be developed in consultation with ECE sector representatives. The specific access to data issue analysed in this RIS has not been consulted with key sector stakeholders.
20. Similar to schooling, the new Equity Index for ECE is being developed as a targeting mechanism for allocating most of the equity-focused funding in ECE.

What is the policy problem or opportunity?

Under its new legislation, Statistics NZ is unable to disclose data at an ECE service-level to the Ministry

21. In December 2022, it became apparent that Statistics NZ could not disclose ECE service-level data contained within the IDI to the Ministry. This is due to the new Data and Statistics Act 2022, which modernised the Government Statistician's powers to collect and disclose data, including addressing the use of administrative data such as that included in the IDI.
22. The analytical model that underpins the new Equity Index for ECE draws on multiple socio-economic variables within Statistics NZ's IDI. Results are aggregated to a service level, in that each ECE service is assigned a number (their Equity Index number) indicating the socio-economic status of all the children that attended the service. Individual-level socio-economic information would not be requested for disclosure.
23. Enabling access to service-level data within the IDI would allow the Ministry to design a new Equity Index and develop a method for allocating equity funding to ECE services based on the index.

The previous Statistics Act 1975

24. Statistical confidentiality is an internationally recognised principle that statisticians should not publish or disclose data in a form that identifies individuals or organisations. Any exception must be clearly expressed in relevant legislation.

25. The Statistics Act 1975 primarily focused on collecting data through statistical surveys rather than using administrative datasets. The data disclosure arrangements that were established relied on some complex interpretations of the legislation. Each government agency supplying the relevant source data needed to consent before results could be released at a level identifying an organisation.
26. Prior to the new Data and Statistics Act 2022 coming into effect, the Ministry had an agreement in place with Statistics NZ about how the data should be used, and the intention of that agreement still applies.

The new Data and Statistics Act 2022

27. The Data and Statistics Act 2022 (the Act), enacted on 8 August 2022, extends the Government Statistician's mandatory collection powers to any type of data from any source including administrative data, for example data collected by government agencies, businesses and other organisations as part of their everyday activities. In addition, the Act also differentiates between public sector agencies and private organisations.
28. The loosely controlled discretion under the previous legislation, relying on consent from a data supplier, was no longer seen as appropriate. Under section 39(1) of the Act, the Government Statistician must take all reasonable steps to ensure that data that could reasonably be expected to identify individuals or organisations is not published or otherwise disclosed, except in certain situations.
29. The Act states data can be disclosed by the Government Statistician if authorisation has been provided by the individual or organisation to which the data relates. This means that ECE services could give consent for their data to be disclosed for the Equity Index. This option is analysed in this RIS as Option Two.
30. The schooling Equity Index is not affected by the change in legislation. School boards are considered public sector agencies under the Data and Statistics Act 2022 and there is no obligation to make data related to them confidential. Whereas ECE services are owned by a mixture of privately owned businesses, charitable and community trusts, incorporated societies, health boards and councils and local authorities.

No organisations or individuals are directly affected by the Ministry not having access to this data, however the allocation of equity-focused funding to ECE services will be affected indirectly

31. Organisations that are licensed to provide ECE services include education and care services, kindergartens, home-based, kōhanga reo and playcentres. In 2022, there were just under 4,600 ECE services with approximately 181,500 pre-school aged children attending ECE. Under all options, all ECE services will receive an Equity Index according to the socio-economic status of their enrolments, which will determine their equity funding allocation.
32. None of the options identified in this RIS would affect the total quantum of Government-provided equity funding to allocate to ECE services. Funding would still be provided, either under the current or using a modified methodology. However, calculating funding allocations would be less accurate and current than under the new Equity Index approach.

Existing safeguards will be reviewed and, if necessary, strengthened to protect the privacy of children and families should the Ministry be granted access to this data

33. The privacy of children and families will be protected. The Ministry is not seeking the disclosure of this data.
34. There is, however, a low risk that for a small number of ECE services with very low enrolments, it could be possible to infer the socio-economic status of children or their families from the socio-economic index number for the ECE service they are enrolled with. The Ministry is working to develop an index that measures across three years' data which will help mitigate this risk.
35. The Ministry will work to ensure compliance with the Privacy Act 2020, alongside assessment and mitigation of any broader privacy risks. The Ministry will also work in a way that is consistent with Statistics NZ's safeguards to maintain data security and privacy and is testing whether other measures are needed in addition to the Statistics NZ's usual requirements. The Ministry will work through any additional safeguards with Statistics NZ and the Office of the Privacy Commissioner.
36. The publication of the new Equity Index for ECE will also need to be worked through carefully with Statistics NZ and the Office of the Privacy Commissioner. The schooling equity index is published. Consideration of whether the ECE Equity Index should be published, alongside the application of other legislation such as Official Information Act 1982, will form part of the Cabinet decisions on the final design of the Equity Index.

Bespoke measures for determining an Equity index will be developed for some ECE services

37. The Ministry understands that the Privacy Commissioner considers sole traders to be both organisations and private individuals. A small number of ECE services are sole traders (about 3%). The Ministry will work with Statistics NZ to develop a bespoke solution for this group.
38. Similarly, attendance data for ngā kōhanga reo and newly opened ECE services is not currently in the Early Learning Information system and therefore not in the IDI. The Ministry therefore cannot link children to a kōhanga reo or new service in the IDI and calculate a new Equity Index value for individual kōhanga reo or new services. Given this, an Equity Index proxy is needed for ngā kōhanga reo and new ECE services. This would be developed in parallel with the new IDI-based index for other early childhood services based on an agreement with the Trust about sharing their data.
39. An Equity Index proxy is needed for ngā kōhanga reo. This would be developed in parallel with the new IDI-based index for other early childhood services. Whether the proxy is used as an interim or long-term allocation mechanism is dependent on whether the Ministry will have access to kōhanga reo data and if this would be included in the IDI.
40. There are several other types of service that will require an index number to be developed without IDI data, because of the low number of enrolments or the unique role to the service. These include:
 - Hospital-based services
 - Casual education and care services (such as those on ski fields)
 - ECE services connected to Teen Parent Units; and

- ECE services that have very small numbers of children in attendance (e.g. less than 5 children).

What objectives are sought in relation to the policy problem?

41. The Minister of Education signalled to Cabinet that the Government's objective for this work is that a new Equity Index, similar to the one developed for schooling, will be used as the targeting mechanism to allocate equity-focused funding in early childhood education.
42. The objective in permitting Statistics NZ to disclose service-level IDI data (in the form of an Equity Index) to the Ministry is to enable funding to be targeted to ECE services based on an accurate and up-to-date representation of the socio-economic characteristics of their attendees.
43. This aligns with the purpose of the three equity funding streams, which is to enable access to ECE by improving its affordability and to improve the quality of early learning for children at services with higher proportions of attendees from low socio-economic backgrounds.

Section 2: Deciding upon an option to address the policy problem

What criteria will be used to compare options to the status quo?

44. The following criteria have been chosen to analyse the options against the counterfactual:
 - a. **Alignment with policy intent – strength of resulting funding allocation mechanism:** considers whether the option enables the development of a new Equity Index that is as accurate as possible, drawing on individual-level, up-to-date data from a range of sources, providing a nuanced Index that draws on multiple indicators of socio-economic disadvantage.
 - b. **Privacy implications:** considers the extent to which the option supports the privacy of individuals, population groups and organisations.
 - c. **Administrative burden:** considers the level of burden the option places on ECE services and the Ministry.
 - d. **Alignment with policy intent – coverage of resulting Equity Index:** considers the level of coverage that the option provides. How many bespoke solutions will need to be created if the option is implemented?
 - e. **Time required:** considers how much time the option will add to the overall implementation timeframe.

What scope will options be considered within?

45. Consideration of options is constrained by the Minister's commitment to using a new Equity Index, similar to the one developed for schooling, to allocate equity-focused funding in early childhood education.

What options have been discounted?

46. The Government Statistician has the authority to grant an exemption from the statistical confidentiality requirements in the Data and Statistics Act 2022 under section 39(2)
47. Officials have engaged with Statistics NZ to investigate whether the Government Statistician could authorise publication or disclosure of the Equity Index data to the

Ministry either under sections 39(2)(c) or 39(2)(d) of the Data and Statistics Act 2022. This option was discounted because the data to be disclosed did not meet any of the grounds for exemptions specified.

48. Another option considered was for the Ministry to use alternative data sources and collection methods to obtain data to inform an Equity Index, independently of the IDI.
49. This option was discounted because sourcing and collecting the data variables independently for an Equity Index via other methods would be time-consuming, resource-intensive, duplicative and carries significant privacy and security risks.
50. The IDI is the Government's most comprehensive data base of socio-economic information from several sectors, including education, social welfare, migration and movements, justice, and health and safety. It links information from surveys, government agencies, and non-government organisations together to allow approved researchers to conduct cross-sector research and analysis. The Ministry would expend considerable time and resources to duplicate this database.
51. The IDI also has a legislative protective framework around it that allows and governs how the data can be accessed and used. The Ministry would be required to manage and store this data securely, and without identifiers, to maintain the data security, data sovereignty and privacy obligations currently set out in legislation. The Ministry would need to build a high level of public trust in a short time and maintain a tightly protected data access environment, which Statistics NZ already has in place with the IDI. Without this, data providers would not share their information with the Ministry.

What options are being considered?

Option One – Status quo/Counterfactual

52. This option would use the current data, to maintain the current equity index. Consideration would be required on how best to update the calculation to use more recent Census data, likely after results from the 2023 Census become available.
53. Given that 97 percent of respondents supported the action to review equity and targeted funding during consultation on the draft Early Learning Action Plan, it is likely that a decision to retain the existing allocation mechanism would be met with opposition from the ECE sector and wider public.
54. This option does not align with the policy intent and would continue to administer equity funding through a significantly less precise instrument.
55. The Ministry considers that the current system of allocating socio-economic resourcing is inaccurate. If retained, some services serving lower socio-economic status communities will not receive the level of financial assistance that they should. This is an indirect effect of the option, in that choices about the underlying model go on to impact the mechanism by which funding is allocated to services.

Option Two – Seek consent from each ECE service

56. This option would require the Ministry to seek consent from all licensed ECE services for their Equity Index value to be outputted from the IDI. There are around 4,500 ECE services in operation, with around 100 entering the system each year. The process of seeking, receiving, maintaining and reconfirming (when required) consent would need to be developed to meet both the Ministry's and Statistics NZ's requirements.

57. While this option would enable service-level data to be disclosed for those services that provided consent, it would not meet the policy intent. The new allocation mechanism could only be used to deliver funding to consenting services, with those that do not consent either receiving funding via a different mechanism or not receiving funding at all. This would not support equitable access to high quality ECE.
58. While the ECE sector has expressed support for the introduction of a more accurate, up-to-date funding allocation mechanism, the process to seek consent may be onerous for services, who are not familiar with the IDI and the use of data to produce an Equity Index.
59. This option would enable a partial move towards a more accurate method of allocating funding targeted towards mitigating the effects of socio-economic disadvantage. There would likely be some distributional impacts, in that some services serving lower socio-economic status communities would receive more funding. However, given that some services may not provide consent, the accuracy of funding distribution may be suboptimal. This is an indirect effect of the option, in that choices about the underlying model go on to impact the mechanism by which funding is allocated to services. Children attending services that do not provide consent could be further disadvantaged by not receiving the additional funding that would otherwise be available.
60. This option is still preferable to the status quo/counterfactual (Option One), as it would make for a more accurate funding allocation mechanism, if only partially more accurate. This in turn would benefit society in that funding would be more accurately allocated towards socio-economic need.

Option Three – Legislative amendment to the Education and Training Act 2020

61. Under this option, the Education and Training Act 2020 would be amended to include a provision that enables Statistics NZ to disclose to the Ministry the new Equity Index for ECE at a service level.
62. The provision would allow Statistics NZ to disclose Equity Index data for ECE as originally intended and as such would align with the policy objectives. The disclosure of the service-level data would enable the Ministry to continue to develop a more nuanced, accurate and equitable funding allocation mechanism.
63. This is also the broad design that was consulted as part of the Early Learning Action Plan and received strong support. It has also been tested with a Sector Reference Group.
64. A transition to a more accurate, up-to-date and nuanced system of funding allocation would redistribute funding to services enrolling children with the greatest socio-economic need. It will likely have impacts for Māori and Pacific children; however, the Ministry expects to be able to better describe these impacts after decisions on the funding distribution and transition approach have been made. This is an indirect effect of the option, in that choices about the underlying model go on to impact the mechanism by which funding is allocated to services.
65. This option is preferable to the status quo/counterfactual as it would enable the Ministry to continue to develop a more nuanced, accurate and equitable funding allocation mechanism. This in turn would benefit society in that funding would be more accurately allocated towards socio-economic need.

66. The Ministry is not aware of any other sectors that have amended their legislation to address similar issues to enable access data to deliver their policy projects.

Option Four – Technical changes to the underlying index methodology

67. This option would change the underlying methodology of the new Equity Index that is currently under development, aggregating data in such a way that it can be outputted from the IDI. There are two possibilities:
- a. Aggregating at a meshblock level rather than a service level. This would involve calculating the Equity Index for each meshblock and outputting this from the IDI. The Ministry would then calculate a service's score by matching enrolled children to each meshblock
 - b. Creating mirror regression models inside and outside of the IDI. This would involve creating several regression models based on the "true" values in the IDI. The Ministry would release the parameters from the regression models from the IDI and then reverse engineer service-level scores.
68. The level of accuracy of either of these approaches cannot be quantified at this stage. However, the Ministry considers these methodology changes to be less desirable as they add complexity and would most likely decrease the accuracy of the resulting index. As such, this option does not align well with the policy objective of developing a more accurate funding allocation mechanism.
69. If this option was implemented, support from the ECE sector may be less positive if the new Equity Index for ECE appears to be less accurate than the schooling Equity Index. There may be concern that a less powerful model has been accepted for ECE.
70. This option would enable a move towards a more accurate method of allocating funding targeted towards mitigating the effects of socio-economic disadvantage. There would likely be some distributional impacts, in that some services serving lower socio-economic status communities would receive more funding. However, given that the underlying model will likely be less accurate than the model that was originally designed, the accuracy of funding distribution may be suboptimal. This is an indirect effect of the option, in that choices about the underlying model go on to impact the mechanism by which funding is allocated to services.
71. This option is still preferable to the status quo/counterfactual (Option One), as it would make for a more accurate funding allocation mechanism, if still less accurate than that proposed in Option Two. This in turn would benefit society in that funding would be more accurately allocated towards socio-economic need.

How do the options compare to the status quo/counterfactual?

	Option One – Counterfactual	Option Two – Seek consent from each ECE service	Option Three – Legislative amendment to the Education and Training Act 2020	Option Four – Technical changes to the underlying index methodology
Description of option	Continue to allocate the bulk of equity-focused funding via the existing Equity Index, with a possible data update following the 2023 Census.	The Ministry seeks consent from all licensed ECE services.	Include a provision in the Education and Training Act 2020 to enable Statistics NZ to disclose service-level outputs for an Equity Index for ECE.	Change the underlying methodology of the new Equity Index to enable data to be outputted from the IDI.
Alignment with policy intent – strength of resulting funding allocation mechanism	0	✓	✓✓	✓
Privacy implications	0	0	X	X
Administrative burden	0	X	0	X
Alignment with policy intent – coverage of resulting Equity Index	0	XX	✓	0
Time required	0	XX	X	XX
Overall assessment	0	XXXX	✓	XXX

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

72. Our assessment is that **Option Three**, a legislative amendment to the Education and Training Act 2020, is the best option.
73. By including a provision to enable Statistics NZ to disclose the service-level outputs for an Equity Index for ECE, the Ministry will be able to develop the most accurate, up-to-date and nuanced method of describing the socio-economic challenge facing ECE services. This option is therefore best aligned with the policy intent of creating a robust method of describing the socio-economic challenge faced by ECE services.
74. While Option Two would also enable the Ministry to create such an index, service-level outputs would only be available for those services that provided consent. An additional proxy index would be required for other services, which would likely be less accurate. This in turn would dilute the impact of changing to the new system of allocating funding. Option Four is also less desirable from an accuracy viewpoint, as the resulting index would be considerably less accurate than that which would be created under Option Three.
75. Under any of the options discussed, privacy issues would need to be carefully managed, including ensuring personal information cannot be inferred at small ECE services, and considering whether to publish the index. However, Option Three would use IDI data, which is subject to a higher standard of protection due to the sensitive nature of the administrative information it draws upon. Prior to the new Act coming into effect, the Ministry had an agreement in place with Statistics NZ about how the data should be used, and the intention of that agreement still applies. The Ministry will work through any additional safeguards with Statistics NZ and the Office of the Privacy Commissioner.
76. Option Three is also promising as it carries no administrative burden for services. In contrast, Option Two would place the most significant administrative burden on services as they would be required to complete paperwork in the process of providing consent. Similarly, this option would place a considerable administrative load on the Ministry.
77. While time is required to continue to develop the new Equity Index for ECE, additional time would be added if Options Two or Four were implemented. As such this would delay the implementation of the new system of allocating equity-focused funding, meaning that services would continue to have their eligibility for equity focused funding determined by an out-of-date, blunt allocation system for longer.

What are the marginal costs and benefits of the option?

78. As noted previously, obtaining access to IDI data to calculate the likely cost impacts of the options is a key limitation of this analysis. As such, the Ministry is unable to quantitatively calculate the marginal monetised costs and benefits of the preferred option, especially the potential changes in equity funding allocated to ECE services, which is a likely indirect impact of this option.

Direct impacts of the Statistics NZ disclosing data to the Ministry

79. There are no additional direct cost impacts to the Ministry, ECE services or other stakeholders of the Ministry obtaining access to this data and an Equity Index for the purposes of calculating the allocation of equity funding to services.

80. The disclosure of data would be an inter-agency Government process that mirrors the current school Equity Index approach and other decile-based processes for determining the socio-economic status of people and communities.
81. The key direct benefit is Option Three provides a more accurate and nuanced Equity Index that better reflects the socio-economic status of children attending ECE services. This will enable equity funding to be better allocated to the ECE services that have the greatest need.

Indirect impacts of the Statistics NZ disclosing data to the Ministry

82. Indirectly, a new equity index would result in a redistribution of public funding, towards those services enrolling children with the lowest socio-economic background.
83. The marginal costs and benefits are summarised in the following table.

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Affected groups <i>(identify)</i>	Comment <i>nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.</i>	Impact <i>\$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.</i>	Evidence Certainty <i>High, medium, or low, and explain reasoning in comment column.</i>
Additional costs of the preferred option compared to taking no action			
Regulated groups	Ongoing	Low - No direct cost impacts on ECE services from enabling Statistics NZ to disclose this data	High – Disclosure of data between agencies is an internal Government process that has no direct effect on ECE services
Regulators	Ongoing + One off	Low - Potential reputational risk for the Ministry should: <ul style="list-style-type: none"> • Privacy breaches occur should the Ministry be granted access to the data • ECE services getting less funding express dissatisfaction publicly (where the access to the data identifies a reduction in eligibility for equity funding in comparison to the status quo) 	Medium
Others (eg, wider govt, consumers, etc.)	Ongoing	Low - Disclosure of data between agencies is an internal Government process that has no direct effect on children attending ECE services and their families.	High
	One off – Risk of data breach resulting in public release of individual -level IDI data. Existing security protocols within Statistics NZ and the Ministry mitigate the risks of data breaches	High – Public release of IDI data that informs the index could have impacts on children attending ECE services and their families whose privacy was breached.	High
Total monetised costs		N/A	
Non-monetised costs		Low-Medium	
Additional benefits of the preferred option compared to taking no action			
Regulated groups	Ongoing	Low – Equity Index values will inform the funding model that will calculate equity funding allocations to ECE services.	Unknown - extent of funding change is unable to be supported

			with quantitative analysis
Regulators	Ongoing	Low - 9(2)(f)(iv) [Redacted] [Redacted] [Redacted] [Redacted]	Low
Others (eg, wider govt, consumers, etc.)	Ongoing	Medium - Better policy outcomes: Equity funding will be more effectively targeted towards children with the highest socio-economic disadvantage	Low
Total monetised benefits		N/A	
Non-monetised benefits		Low	

How will the new arrangements be implemented?

Implementation will be via the Education and Training Bill

84. This policy proposal has been included in the LEG Cabinet paper seeking approval to introduce the Education and Training Bill (No 3) to Parliament, which will amend the Education and Training Act 2020. PCO have drafted the legislative provisions to permit Statistics NZ to disclose the data to the Ministry into this Bill.
85. Subject to Cabinet's decisions, the Bill will be introduced to Parliament on 21 March 2023 with first reading anticipated by 30 March 2023. A four month Select Committee process is programmed with the report back to the House due by end of July 2023. Final stages in the house are expected to be complete by the end of August 2023, when the new provisions will come into effect.
86. Once Statistics NZ discloses the data and the Index, the Ministry will implement the new Equity Index model that will calculate funding allocations to ECE services. Development and testing of the funding model, 9(2)(f)(iv)
[Redacted]

Notifying the ECE sector and the public of the proposal

87. The Ministry will advise ECE peak bodies and other sector groups about the access to data issue and, subject to Cabinet's decisions, the legislative amendment prior the introduction of the Bill to the House.
88. This approach will notify the sector of this proposal and enable them to make a submission on the proposed change via the Select Committee process to inform the Committee's report back to the House.
89. The Ministry will also prepare communications that inform families with children in ECE and the general public of how personal information is being used as part of this proposal and the Equity Index model.

Transition to the new Equity Index model

90. As the preferred option is an inter-agency internal Government process that replaces an existing internal Government process involving Statistics NZ, there is no transition process or costs involved in moving to a new system where Statistics NZ discloses the data and an Equity Index to the Ministry.
91. Subject to Cabinet's decisions, once the Ministry has access to the IDI service-level data, the next steps for the technical development of the equity index are to;
 - Continue to develop and test the design of the ECE funding allocation model that will enable the index values to be used to calculate each services' equity funding level;
 - Address the ECE-specific issues that were not present in the schooling index - for example, confirm our approach to developing indices for certain service types where there are data gaps and addressing the privacy issues for small services. This will be an iterative process as issues arise and is contingent on receiving the necessary data outputs and permissions at the appropriate project milestones;
 - Confirm the equity index values for each ECE service that will determine their distribution on the ECE funding curve and the funding rates to be assigned to each index level for the first year the Equity Index is implemented.
92. Once the model and total equity funding is confirmed after Budget 2023, the Ministry's will test the model and build the allocation system into its existing funding and payments system.

How will the new arrangements be monitored, evaluated, and reviewed?

93. The Ministry is the regulatory body responsible for the early learning sector and has responsibilities to maintain and oversee the ECE regulatory system.
94. The Ministry will work to ensure compliance with the Privacy Act 2020, alongside the assessment and mitigation of any broader privacy risks. The Ministry will also work in a way that is consistent with Statistics NZ's safeguards to maintain data security and privacy and is testing whether other measures are needed in addition to the Statistics NZ's usual requirements.
95. Prior to the new Data and Statistics Act 2022 coming into effect, the Ministry had an agreement in place with Statistics NZ about how the data should be used, and the intention of that agreement still applies. The Ministry will work through any additional safeguards with Statistics NZ and the Office of the Privacy Commissioner.
96. The publication of the new Equity Index for ECE will also need to be worked through carefully with Statistics NZ and the Office of the Privacy Commissioner. The schooling equity index is published. Consideration of whether the ECE Equity Index should be published, alongside the application of other legislation such as Official Information Act 1982, will form part of the Cabinet decisions on the final design of the Equity Index that will occur later in 2023.
97. The Ministry also has existing obligations to manage and maintain data security and privacy under the Education and Training Act 2020. The Ministry will ensure that these obligations are met with respect to the transfer of data related to the Equity Index from Statistics NZ to the Ministry.

98. The Ministry must also adhere to Statistics NZ's 'Five Safes' and 'Nga Tikanga Paihere' frameworks to manage safe access to the information about New Zealand people, households, and businesses contained within the IDI. After integrated data has had identifying information removed, only vetted and approved researchers can access selected, de-identified datasets for their specific project. This research must be for the public good. Users can only access the data in our secure research facilities. Statistics NZ also checks research results before they're released to make sure individuals can't be identified.

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