



Discussion Paper 4

Ratios, group size, and space per child in early care and education

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Ratios, group size, spaces, in early care and education

Discussion paper version 1.0, 26 September 2022

The proposal at a glance...

ECE Reform proposes a set of funded concurrent changes introduced over a period of three years.

What we need to do

- Urgently improve teacher:child ratios, with a priority on the youngest children.
- Introduce group size limits, integrated with ratios
- Improve space per child indoors and outdoors

What the changes look like

There is an advantage in combining ratios and group sizes together in one set of tables, and we need to consider children's hours of attendance in each day. We also need to consider manageable team sizes, balanced against ideal small group sizes. We have developed a set of tables (shown in full on page 6), for sessional, school day, and long day attendance, and also for mixed-age. The one we are showing here is simply for long day age-grouped ECCE (over 7 hours per day), as an example.

Table 1: Ratios and group sizes, after 3 years of transitional requirements, with additional funding.

Teacher led, long day (max 11 hrs)			
Age range	Minimum teacher:child ratio	Max group size	Group size to ratio
Under 18 months	1:3	9	3x
18 to 30 months	1:4	12	3x
24 to 36 months	1:6	18	3x
3 years and over	1:8	32	4x

We also propose improving space per child indoors and outdoors to match Australian standards, over a three-year transitional time frame, with additional funding.

Table 2: Changes to space per child

Time frame from legislation commencement	Indoors (free from fixtures and fittings)	Outdoors (child access space)
<i>Existing Centres</i>	m ²	
6 months	2.75	5.5
18 months	3.0	6
3 years	3.6	7.2
<i>New centres</i>	m ²	
Immediate	3.0	10
3 years	3.6	10

A note about terminology

This discussion document sometimes uses the term ‘childcare’ in the context of non-parental care, beyond the hours of attendance that would apply if the purpose were only early childhood education (ECE). This is not at all to say that ECE does not happen in childcare. Rather, it is based on the understanding that for most children in New Zealand, we attempt to provide ECE in the context of childcare (often long-day), rather than sessional ECE. Childcare centres are both living and learning environments. We also use the term ‘early childhood care and education’ (ECCE), but it is important to highlight living conditions for children by recognising the reality of childcare.

This understanding does not in any way undermine the need for trained ECE teachers for children at all ages and developmental stages, nor does it in any way undermine the professionalism of the ECE teaching sector.

1 Why we need to change our regulations

New Zealand’s standards for teacher:child ratios are very poor compared with other developed nations, and the same is true for space per child. New Zealand has no group size limits.

Inadequate teacher:child ratios not only place children at physical risk due to inadequate supervision, but also at risk of neglect, especially emotional neglect. In a 2020 survey by Child Forum of 4,020 ECE teachers, 29% of respondents reported not having time to develop relationships with the children in their care. This was a voluntary survey, and therefore subject to selection bias, but even if you halved that percentage it would represent a critical state for the care of children. For infants and toddlers in particular, secure attachment relationships in childcare are essential, and a lack of those relationships in long day childcare places children at risk of short-term and long-term emotional harm. Ratios that can only provide for physical care are inadequate for early childhood education.

Ratios alone cannot ensure that all children are in secure relationships with adults through the day. Large group sizes increase relationship complexity beyond a point that is manageable, and may see some children lost in the crowd. Group size, and in particular group sizes in infant and toddler settings, were reviewed by Carmen Dalli and Ann Pairman in a 2013 article. They noted that group size had been raised as an issue with the Ministry of Education since the 1980s, and that a 2012 advisory group to the Ministry recommended that group sizes be regulated, but with no result. ^[1]

Overcrowding indoors increases noise due to the Lombard effect (an upward spiral of noise volume as people raise their voices against background noise). It also increases interpersonal conflict between children due to lack of uninterrupted space for activities, and lack of personal space. These factors combine to increase stress.

2 Stopping harm to children

The current regulations inherently expose children to stress in the following ways:

- Insecurity generated by a lack of adult response to needs (by the physical or emotional) due to inadequate ratios.
- A lack of one-to-one secure relationships due to inadequate teacher child:ratios. This problem is exacerbated by high staff turnover, which in turn can result from inadequate ratios and other poor-quality conditions.
- Exposure to noise and stressful conditions as result of overcrowding, including harmful child-child interactions due to inadequate play space and personal space.
- Insecurity generated by excessive group sizes, that diminish identity within a community, and may result in neglect, especially for quieter or more withdrawn children. Large group sizes increase social complexity, making it more difficult for teachers to get to know individual children.

While some children may have sufficient resilience to cope with these adverse conditions, because of their own personal attributes or because of secure home relationships, research has indicated already disadvantaged children may be harmed further. Poor quality childcare attendance may exacerbate risks to mental health through chronic atypical cortisol elevation for at risk children.^[2] More negatively emotional infants are more affected—for better and for worse—by childcare quality. These children benefit from good quality care and are adversely affected by poor quality care. This underscores the value of high-quality ECCE conditions both to prevent harm, and for the benefits to the more at-risk children.^[3]

The authors of *Child Care Centers Licensing Standards in the United States from 1981 to 2023* stated that the importance of child-to-staff ratio and group size in early childhood education cannot be overemphasized. Research has shown that smaller groups lead teachers to engage in more social interactions with children and spend less time observing them. This results in children showing more cooperation and displaying less hostility and conflict. With lower child-to-staff ratios, lead teachers devote less time to managing children's behaviour and more time to engaging in meaningful interactions with them. It promotes better safety, and higher rates of individual attention, with reduced stress for teachers and children.^{[4, 5].}

Poor quality childcare also has an impact on children's general development and learning, especially where parents are relying on long day childcare for most of their children's learning and developmental needs. In 2022 the Growing up in New Zealand (GUINZ) study reported a quarter of New Zealand children were starting school with developmental delays. The researchers attributed this to socio-economic and ethnic inequities, but the GUINZ study does not have data on ECCE conditions, and therefore could not have made a correlation. The conditions in minimum standard ECCE centres would rationally predict this outcome however, as the conditions do not support children's wellbeing or learning.

3 ECCE sector collapse – the teacher exodus, and centre closures

New Zealand is currently experiencing a collapse of the ECCE sector teaching workforce, with centres finding that they cannot obtain relievers when teachers are off sick. At the same time, ECE Reform has received reports of centres operating with 50% of their staff being relievers – Which strongly indicates that the relieving pool has been absorbed replacing permanent staff. This is an unsustainable situation, and it exacerbates problems with instability of child teacher relationships.

Evidence on social media discussion pages for ECE teachers, such as *NZ ECE Teachers Discussion*, *ECE Leaders and Managers*, and *Teachers Advocacy Group*, strongly indicates that teachers are leaving not because of pay, but because of the conditions they and the children are subjected to. This has also been true of communication to directly to ECE Reform from many ECE teachers.

Here are some teachers statements from these Facebook pages:

“The high number of children. I find it too busy and actually quite detrimental to children's health. Even with supposed ratios being kept (mostly) it's still too much for quality care. New children or [those with] learning needs can't cope.”

“It's often noisy, too busy, you feel stretched & stressed. Can't give individual kids the attention they need and deserve. Some days it just feels unsafe – too many kids, and adults all busy doing other things.”

“I spend all day just putting out fires”.

“It's just crowd control”.

“It's like prison”.

“I feel broken by this”.

In addition, teachers stated in a case brought against the regulations to a parliamentary Regulations Review Committee in 2021 that:

“As Early Childhood teachers, we have been aware that the space limitations in many centres, the lack of adult attention when minimum regulations are applied, and increasing group sizes in the sector, have been contributing to mental and physical injury and illness to both children and teachers.”

Centre closure

Another important aspect of the sector collapse is the closure of good quality centres. In 2021, in submissions to a Select Committee on pay-parity related legislation, at least two early childhood centre owners indicated that they would close their centre(s) if required to work to minimum standards. This was because of the harm to the children. This situation was repeated in 2023 with the introduction of ‘20 hours ECE free’ for two-year olds. The funding was only sufficient for minimum standards (a 1:10 ratio for two year olds) – rejected as unsafe by better quality centres.

In May 2023 Simon Laube, CEO of the New Zealand provider association Early Childhood Council, stated that 91 centres had already closed since the start of the year, “The average centre enrolled about 41 children, meaning that over 3,700 children and families lost their chosen early learning option with these 91 centre closures in the year to date. New Zealand is rapidly losing its diversity of choice, starting with centres that don't or can't rely on significant income from parent fees”.

4 The potential power of the first positive changes for children’s ECCE living environments since 1960

Yes – it really has been that long. There have been no improvements to ratios, space per child or group size, or any other environmental measures, for over 60 years^a. Space per child was reduced in 1985 and 2008.

What would be the impact on teachers if they are given real hope? Not just platitudes about ‘commitment to quality ECE’, but concrete changes to regulations and the licencing system? These changes can not only stop the collapse of the sector, but rejuvenate it, bringing more teachers in.

Setting out a clear pathway for regulation change in a realistic timeframe (we propose three years from the commencement of legislation), is a key part of the strategy to turn the sector around. At present, one might ask, ‘Why anyone would train as an ECE teacher, given the state of the sector?’. But if teachers can look forward to a vibrant, rejuvenated sector by the time they qualify, then teacher training providers have a basis to advertise without being disingenuous. They can point to a real possibility of an enjoyable and rewarding career, in which teachers are actually able to do what they are trained to do.

5 Defining group sizes

Defining group size has been considered a difficult challenge, but group sizes have been implemented in other jurisdictions for many years, and it should not be considered an insurmountable task.

Group size controls are necessary to ensure the development of a sense of community, a sense of belonging, and secure relationships. This means that group size controls do not need to operate all of the time – a very important consideration for practical building layout and operational purposes. The definition of ‘group size’, and its associated definition ‘spatially separated’, were developed to minimise structural interventions and cost, while maintaining the socio-emotional objectives of group size.

‘Group size’ definition

‘Group size’ means the number of children in a spatially separated group, with specifically allocated teachers (counted in ratio), applied for 80% of the operational day.

- Group size does not apply outside.
- Group size doesn’t mean *structural* room size or centre size (see below).

‘Spatially separated’ definition

‘Spatially separated’ means separated from other groups by being in a separate room, where a ‘room’ is a space divided from other spaces by a barrier at least 1.5m high.

^a Except specific provision for outdoor space for children under two years in 1985 (missing in 1960).

These definitions mean that, in practise, an open plan space for 50 children could be divided into two or more separate rooms, using lightweight dividers at 1.5m high. This height allows teachers to see across the whole room, but gives children the sense of being in a separate space with their own group. The use of acoustic ceiling treatment combined with noise-reducing dividers can be used to reduce noise transmission across the structural room. There would not be a need to divide ablutions areas or dining areas.

6 Ratios and group size tables – age-grouped, teacher-led

Table 3: Ratios and groups size 3 years after passing legislation (age-grouped, teacher led)

Teacher led, long day (max 11 hrs)			
Age range	Minimum teacher:child ratio	Max group size	Group size to ratio
Under 18 months	1:3	9	3x
18 to 30 months	1:4	12	3x
24 to 36 months	1:6	18	3x
3 years and over	1:8	32	4x

'Group size to ratio' is important, as this represents the available team size at minimum ratios.

Teacher led, school day (max 7 hrs)			
Age range	Minimum teacher:child ratio	Max group size	Group size to ratio
Under 18 months	1:3	9	3x
18 to 30 months	1:4	12	3x
24 to 36 months	1:6	18	3x
30 to 36 months	1:7	35	5x
3 years and over	1:8	40	5x

Teacher led, sessional (max 4 hrs)			
Age range	Minimum teacher:child ratio	Max group size	Group size to ratio
Under 12 months	1:3	9	3x
12 to 30 months	1:4	12	3x
24 to 36 months	1:6	24	4x
30 to 36 months	1:10	40	4x
3 years and over	1:15	45	3x

These tables present the goal after three years, but are preceded by transitional requirements. We can't get there in one go. When viewing these tables, it's essential to understand that these changes must be funded, and there is no expectation to reach these ratios with current funding. Unless changes such as these are made however, the collapse of the teaching workforce will continue.

7 Ratios and group size rationale – age-grouped, teacher-led

Ratios are about relationships

The purpose of group size limits.

1. Limiting the social interaction complexity imposed on a child for most of the attendance time, and fostering a sense of belonging.
2. Limiting the number of children a teacher needs to build relationships with, to ensure that those relationships can be maintained, with suitable attention to individual child needs and development.
3. Ensuring that all children have secure relationships with adults throughout the day.

Combining ratios and group sizes into one set of requirements

It makes a lot of sense to address ratios and group sizes together, as is done in a number of other jurisdictions, especially in the United States. Strengthening of relationships can be achieved by group size limits as well as by ratios. New Zealand has an urgent need to put in place group size limits, and this urgency makes it sensible to combine the group size definitions and limits with the introduction of improved ratios.

Group size limits have the advantage of reducing relationship complexity and potentially reducing noise, and can be cheaper to implement than very high teacher to child ratios. So for example, these proposals have a 1:6 ratio for children 24-36 months, but with a maximum group size of 18, except for sessional ECE. This is not as tight as the recently proposed 1:4 or 1:5 ratios for this age group, and therefore easier to achieve with government funding. Another argument here, is that before a standard such as 1:4 or 1:5 could be achieved for this age group, the priority intervention would shift to group size rather than ratios.

Team size

There is also a need to consider minimum team size. For this reason, the ratio and group size tables do not restrict a team to less than three teachers. This is contrary to some of the combined group size and ratio tables found in the United States (see Appendices 1 and 2), that specify for example, a maximum group size of eight at a 1:4 ratio. This forces a maximum team size of two, unless the ratio is 3:8, which would be very expensive. The smallest maximum group size in the ECE Reform tables is nine (infants at a 1:3 ratio with a three teacher team). It's important to note though, that in larger centres a good quality centre would augment these minimum ratios with an additional 'floating' teacher working across groups.

Hours of attendance

Children's needs, including the need for secure relationships, will vary depending on the number of hours they spend in a non-parental care environment. For children attending sessional ECE (e.g. a traditional Free Kindergarten or Playcentre environment), there has been much more focus on active

play, and less need for the security of a 'home away from home'. Children spending longer hours in non-parental care will have greater needs for secure interactive relationships with teachers, and will require more personal attention and time from individual teachers. The emotional and relationship pressures of larger groups will take a greater toll on children as they spend longer hours in those environments, increasing the risk of sustained elevated cortisol levels.

Needs of very young children

In Table 3 ratios and group size for children over 30 months vary depending on hours of attendance. But for children under 30 months, the safety and care needs were not seen to be significantly reduced by shorter attendance hours. For this reason children under 30 months have the same ratios and maximum group sizes regardless of hours of attendance.

Flexible age brackets

To allow for flexibility of age group management, the tables have age group overlap, so a centre is not forced for example, to have an age division at 18 months or 24 months. The ratios and group size limits simply apply according to the youngest child in the group. So centre might operate with an age grouping of children under 18 months, with the next age grouping 18 to 30 months, while another centre much prefer to have the youngest age grouping up to 24 months, followed by a 24 to 36 month grouping. There will also be no barrier to shifting age group ranges according to enrolment numbers, as long as ratios and group size limits are maintained.

Age groupings based on developmental stages

Without being too prescriptive, the tables have been designed to recognise the developmental needs that are common at particular ages. For example, WHO identifies 12 months as the age at which 50% of children are walking unaided, compared with 99% at 18 months^[6]. This makes 18 months a key developmental threshold for ratios, rather than 12 months or 24 months.

Likewise, the emotional and self-regulation development that takes place between 24 and 36 months, means that changes in ratios and group sizes at 30 months or 36 months can be important. Data held by the Wellington Regional Public Health Unit in the 1990s showed that no children in Wellington were then attending Free Kindergartens at an age younger than 32 months, and at that age were only attending six hours a week. Most children progressed 15 hours per week at 3½ years old.

8 Ratios and group size transitional requirements – age-grouped, teacher-led

Table 4: Transitional ratio and group size requirements

Age range with age division	Minium Ratio	Max Group Size	
Immediate			‘Immediate’ and ‘after 18 months’ date from passing of the legislation.
Under 2 years	1:4	12	
Over 2 years	1:10	40*	
After 18 months			*Excludes sessional ECE.
Under 2 years	1:4	12	
2-3 years	1:7	21	
Over 3 years	1:10	40*	*Excludes sessional ECE.

As said above, we can't get there in one go. The failure to improve conditions for children and teachers until now has caused an exodus of teachers, in turn resulting in a barrier to ratio improvements. The conundrum here is that unless ratios are improved, we cannot rebuild the teaching workforce.

The under two age group is arguably the most at risk from inadequate ratios and large group sizes, because of the impact on their emotional security. There have been indications however, that if the ratios for under twos were improved along with reasonable group sizes, we could both retain teachers for this age group, and attract teachers back.

Taking these two matters together, ECE Reform concluded that the immediate priority for change was for the under two age group, followed by children two to three years (the toddler age group). Bear in mind that even the ‘immediate’ change would be preceded by the process of passing the legislation, so there would still be a lead in time to attract teachers back.

You will see that in the transition the existing age bands are unchanged for the first 18 months, at which point a new age band is introduced, but group size limits are introduced immediately. The expanded and flexible age groupings described in Section 6, Table 3, apply three years after the legislation commencement.

Using the power of a positive change

The very act of creating this legislation gives hope to teachers – even more so if accompanied by other improvements to legislation, such as improvements to space per child, and replacement of the harmful licencing system (see ECE Reform Discussion Paper 1 – Quality-based Contracting).

The move to a 1:4 ratio for children under two years old is accompanied by a group size limit of 12 children (a team size of three teachers). For older children a group size of 40 is introduced, excluding sessional ECE. We believe this is the most achievable improvement to start with. By the time the next round of ratio improvements is introduced, the impact of the first improvements to conditions for children in 60 years should have encouraged more teachers to stay, and encouraged more teachers to train or return.

9 Ratios and group size – mixed-age, teacher-led

Mixed-age centres environments have a number of excellent advantages, including tuakana-teina relationships, and as is done in some centres already, allowing a child to stay with the same extended ‘family’ from first enrolment through to 5 years old.

On the other hand, the greater the range of developmental stages, the greater the demand on teacher resources, and this demand is greatest when babies are included.

To allow flexibility of operation with corresponding requirements for ratios and group size, ECE Reform proposes the following tables, the first allowing for inclusion of babies, and the second relaxing the ratio and group size requirements if babies are not included.

Because there is no age division, the balancing of developmental stages with teacher resources is achieved by limiting the percentage of children under specific ages.

Table 5: Ratios and group size 3 years after passing legislation (mixed-age, teacher led), including children under 12 months

Teacher led, mixed age, all ages			
Total number of children	Max under 12 months	Max <u>all</u> children under 30 months	Minimum teachers
Up to 10	1	5	2
11-15	2	7	3
15-20	3	10	4
21-25	4	12	5

This model lends itself very well to village-type centre designs, e.g. 5 x 25 child ‘houses’, for a total centre size of 125, while maintaining small groups and community.

Table 6: Ratios and groups size 3 years after passing legislation (mixed-age, teacher led), excluding children under 12 months

Teacher led, mixed age, over 1 year		
Total number of children	Max children 12 to 30 months	Minimum teachers
Up to 12	6	2
13-18	9	3
19-24	12	4
25-30	15	5

Practical considerations include:

- The extra attention demands from very young children
- The need to allow flexibility of ages for enrolment demand variations
- The need for enough teachers to cover various needs and activities, indoors and outdoors

It's important to stress that these are group size limits not centre size limits, so for example, a fully mixed age centre with babies could have a group of 20 children with four teachers, and a group of 25 children with five teachers, for a total of 45 children.

Numbers are 'in ratio', so a team would be supplemented with an extra teacher, possibly shared across two groups, depending on group size.

10 Space per child – improving outdoor areas and stopping overcrowding

Matching Australian legislation

Except for new centre outdoor areas, ECE Reform has chosen the Australian indoor and outdoor standards as a benchmark. These standards are not regarded as high quality in Australia, and are certainly not excessive by international standards (see Appendices 3 and 4). The Australian standards are very similar to those found in many other jurisdictions, particularly in the United States.

Profit at the margin - the perverse incentive to overcrowd and minimise space

In 2008 children lost 10% of their space in a sleight-of-hand wording change – the deletion of the word 'furniture' from the definition of clear floor space. (Please note that the Ministry of Education practice of using a 10% approximation for fixtures and fittings does not address the 10% loss of space – it simply avoids measuring individual items). This reduction could only have been driven by a profit motive, and it rendered an already very poor standard critically bad. It was done directly against PublicHealth advice.

To illustrate the profit motive, we could consider a 100-child centre, with a 10% profit. (This is the margin of the largest profit-based operator in New Zealand). In this scenario, we could consider 90 of the children to be required to cover operating costs, while 10 children represent profit. If you increase the number of children to 110 with the same facilities, your fixed overheads (mortgage or rental, rates, power and insurance), will not change. The extra costs will be staffing and a very small resource cost, so while a specific number cannot be placed on this, we could reasonably put it at 50% rather than 90% of revenue. This would mean that 5 children are required to cover the extra cost, and 5 represent profit, bringing the 'profit' children to 15 rather than 10. So now, for a 10% increase in occupancy, there is a 50% increase in profit. This is a powerful perverse incentive to operate to a minimum standard for space. This is why it has to be regulated to a standard that will ensure reasonable quality of life for children.

The unavoidable need to reduce centre enrolments – accompanied by funding

For most centres it will be impracticable to improve space per child by increasing building size or land area. For most, the only way to bring about an increase in space per child is to reduce enrolments. This needs to be accompanied by funding. As with improvements to ratios and the use of group size limits, failure to make this change will ensure continued harm to children and loss of

teachers. The question is not whether we should increase space per child, but what are the new standards and time frame?

The changes in space per child are driven in the first instance by indoor space. Because these changes are driven by reduced enrolments, a matching percentage change in space per child will automatically apply outdoors in existing centres. At present, outdoor minimum space is double indoor minimum space. In the transition, a change to 2.75m² per child will therefore match a change outdoors to a minimum 5.5m² per child.

11 Space per child – proposed transitions to match Australian standards

These changes bring New Zealand in line with Australian minimum standards, allowing for the difference in wording (NZ = free from fixtures and fittings, Australia = clear floor space).

Indoor space per child

Existing centres

After 6 months:	2.75 m ²
After 18 months:	3.0 m ²
After 3 years:	3.6 m ² (equals Australian standard of 3.25m ² clear floor space).

New Centres

Immediate:	3.0 m ²
After 3 years:	3.6 m ²

There is a modest difference for new centres, to encourage design that will be more appropriate when the 3.6m² requirement applies after three years, and acknowledging that new centres do not need to deal with roll reduction to achieve 3.0m². The adjustment to 3.6m² is accompanied by additional funding.

Outdoor space per child

Existing centres

After 6 months:	5.5 m ²
After 18 months:	6.0 m ²
After 3 years:	7.2 m ²

New Centres

Immediate:	10 m ²
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The Australian outdoor standard is 7m², but for existing centres increased space achieved by roll reduction means that 3.6m² indoors will result in 7.2m² outdoors being available, if an indoor:outdoor a ratio of 1:2 had been used. This is not the case for new centres however, and even 7.2 m² is a poor standard for outdoor areas. For comparison, traditional Free Kindergarten and Playcentre outdoor areas have typically had 15-25m² per child, which allowed for natural areas, including grass, with room for children to run. Achieving better outdoor areas for children can also be achieved by enlisting the cooperation of City and District councils and schools to release green space for centre development.

Appendix 1: Ratios and group sizes – international examples

ECE Reform has reviewed internationally standards for teacher child ratios and group size, and international standards for space per child.

Table 7: Teacher:child ratios in a range of jurisdictions (green is better than NZ, orange is worse)

Jurisdiction	Up to months										Bands	Overlap?	Group size?	
	1.5	12	15	18	24	30	36	48	60					
New Zealand	1:5					1:10					2		No	
New York State	1:3		1:4		1:5		1:7	1:8			5		Yes (2-3x)	
Indiana		1:4		1:5		1:7	1:10	1:12			5		Yes (2x)	
Oklahoma		1:4		1:6		1:8	1:15				4		Yes (2x)	
Isle of Man	1:2 upstairs / 1:3 ^a					1:8					2		Yes (<2s, 12)	
Minnesota	1:4		1:7		1:7		1:10				3		Yes (2x)	
Arkansas		1:5		1:8		1:8	1:12	1:15			4	Yes	Yes (2x)	
Newfoundland and Labrador	1:3					1:5					3	Yes	No	
Arizona	1:5 / 2:11		1:6 / 2:13		1:8	1:13	1:15				5		No	
Kansas	1:3		1:5		1:5	1:7	1:12				5+	Yes	Yes (2x)	
Pennsylvania	1:4		1:5		1:6		1:10				4		Yes 2x	
Michigan	1:4					1:8	1:10	1:12			4		Yes <3s	
Tennessee	Under 15 months 1:4			Complex overlapping age bands (11 in total)							11	Yes	Yes 2x	
Colorado		1:5					1:7	1:10	1:12		5	Yes	Yes 2x	
British Columbia	1:3					1:8	1:10	1:12			2	Yes	Yes	
Finland	1:4					1:4					2		No	
Denmark						1:3					1:6		No	
England	1:3					1:4					1:8 / 1:13 ^b	3		No
Wales	1:3					1:4					1:8	3		Yes
Northern Territories	1:4					1:5					1:11	3		No
Queensland	1:4					1:5					1:11	3		No
NSW	1:4					1:5					1:10	3		No
Victoria	1:4					1:4					1:11	3		No
ACT	1:4					1:5					1:11	3		No
South Australia	1:4					1:5					1:11	3		No
Tasmania	1:4					1:5					1:10 / 2:25 ^c	3		No

^a 1:2 children under 2 years who are cared for above ground floor level. 1:3 children under 2 years. 1:8 children aged 2-7 year

^b 1:8 unqualified, 1:13 if qualified teacher led.

^c 2:25 for a 'preschool programme'

This comparison shows that most of the jurisdictions reviewed were better than NZ, for children under three years old, although this was not the case for children over three years old, where some were not as good or marginally worse.

The poorer teacher:child ratios for children over three in some United States jurisdictions needs to be balanced against group size limits however, where maximum group sizes were in the range 24 to 30 children.

Another notable feature of these comparisons is that almost all of them had more age group bands than New Zealand, with three to five age group bands being common. Six jurisdictions used overlapping age group bands.

Appendix 2: Recommended ratios and group sizes from Childcare.gov

ChildCare.gov is operated by the U.S. Department of Health and Human Services, Administration for Children and Families, Office of Child Care (OCC).

Table 8: Childcare.gov recommendations for ratios and group sizes

Ages	Staff:Child Ratio	Group Size
Infants: Younger than 12 months old	1 adult should care for no more than 3 infants	No more than 6 infants in a group or class
Toddlers: 13–35 months old	1 adult should care for no more than 4 toddlers	No more than 8 toddlers in a group or class
Preschoolers: 3 years old	1 adult should care for no more than 7 preschoolers	No more than 14 preschoolers in a group or class
Preschoolers: 4 years old	1 adult should care for no more than 8 preschoolers	No more than 16 preschoolers in a group or class
Preschoolers: 5 years old	1 adult should care for no more than 8 preschoolers	No more than 16 preschoolers in a group or class
School-age children: 6–8 years old	1 adult should care for no more than 10 school-age children	No more than 20 school-age children in a group or class
School-age children: 9–12 years old	1 adult should care for no more than 12 school-age children	No more than 25 school-age children in a group or class

It can be seen from this table that these recommendations for group size are tighter than those recommended by ECE Reform, but they result in two teacher teams at the minimum ratios. The ECE Reform proposal recognises that a three teacher team can be better safer and more responsive than a two teacher team, which resulted in the decision to allow slightly larger group sizes.

Appendix 3: 2019 indoor space per child – international examples

Table 9: International example of indoor space per child

Jurisdiction	Age or needs group	m ²	NZ equivalent m ² by description
Montana	Special needs	5.00	5.50
Illinois	Play and sleep	5.11	4.60
Michigan	Infants & toddlers	4.65	4.18
Denver	Infants	4.65	4.18
Republic of Ireland	0-1 year	3.5	3.85
Isle of Man	Under two years	3.7	3.70
Saskatchewan		3.70	3.70
Vermont		3.25	3.58
Australian National Regulations		3.25	3.58
British Columbia		3.70	3.52
Minnesota		3.25	3.41
Oklahoma	Infants	3.72	3.34
Pennsylvania		3.72	3.34
Newfoundland and Labrador		3.30	3.30
11 US States	Includes Arizona <1 year	3.25	3.25
Republic of Ireland	1-2 years	2.8	3.08
Ontario		2.80	3.08
Texas		2.79	3.07
Manitoba		3.30	2.97
7 US States		3.25	2.93
United Kingdom	0-2 years	3.5	2.8
Denver	Other than infants	2.79	2.79
New Zealand pre-2008		2.50	2.75
Alabama		2.97	2.68
Republic of Ireland	2-3 years	2.36	2.6
Republic of Ireland	3-6 years	2.3	2.53
Tennessee		2.79	2.51
New Zealand			2.50
Arizona	Over 1 year	2.32	2.32
Isle of Man	Over 2 years	2.3	2.3
Illinois	Infants	2.32	2.09
United Kingdom	2-3 years	2.5	2
United Kingdom	Over 3 years	2.3	1.84

This table was compiled from an English language search for indoor space requirements by Dr Mike Bedford in 2019. The wording of these requirements can differ. The column for 'NZ equivalent' was created by adding 10%, if furniture was excluded (for example in Australia), and deducting 10% if the measurement was gross floor space in an activity area. When applied to the pre-2008 standard for New Zealand, which excluded furniture, this sets the previous *equivalent* standard at 2.75m².

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