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Child Care Facility Design Standards

RECOMMENDATIONS

COALITION OF child care advocates OF BC

ECEBC | early childhood educators of BC

MAY 2023

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CHILD CARE FACILITY DESIGN STANDARDS RECOMMENDATIONS

May 2023

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Our offices are located on ancestral and traditional Coast Salish territory, including the lands belonging to the xʷməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and Səl̓ílwətaʔ/ Selilwitulh (Tsleil-Waututh) Nations

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Introduction

THE COALITION OF CHILD CARE ADVOCATES AND EARLY CHILDHOOD EDUCATORS OF BC are very pleased that the government of British Columbia is currently undertaking a project to develop the first-ever province-wide child care facility design (and cost) standards.

These forthcoming standards are an opportunity to create conditions for ethical care and practice in support of the underlining vision, principles, and learning goals of BC's Early Learning Framework, and to broadly ensure all children and educators can play, learn, and work in high-quality physical environments that are safe, inclusive, environmentally healthy, and climate-friendly.

Through late 2022 and early 2023 — consulting with academic experts, municipal planners, and others — we have been working to put together specific recommendations that speak to:

- Fundamentals upon which we believe the standards should be developed;
- Practice/context considerations for their effective use;
- Specific components of the standards; and
- Complementary projects we believe the province should initiate that flow from the new standards.

Our recommendations and related commentary are included on the following pages.

Standards are an opportunity to ensure all children and educators can play, learn, and work in high-quality physical environments.

ARAN AMAT PHOTO

Fundamentals, and Practice and Context Considerations

IN THIS FIRST SECTION we provide some introductory commentary and recommendations that speak to fundamentals upon which we believe the standards should be developed, as well as practice/context considerations for their effective use and alignment with other government priorities.

First, we assume the process now underway includes Indigenous organizations and voices, consistent with federal and provincial governments' commitments under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). We acknowledge that our recommendations should be considered in the context of those commitments.

- New child care facility design standards should represent an evolution/next step of ensuring quality child care facilities in BC. That is, they should serve as "fresh thinking" that builds and improves upon current standards contained in the Child Care Licensing Regulation.
- They must be based on the best currently available evidence, establish a level of quality that children and educators deserve, and strive for excellence.
- The final standards should apply to all new facilities receiving public funding (capital and/or operating).[1,2]
- The Community Care Child Care Licensing Regulation should be aligned with the new standards within a reasonable time period, understanding that existing facilities would be grandparented and considered for retrofit funding as appropriate.
- Within a reasonable time period child care health and safety oversight via the Community Care Child Care Licensing Regulation should move from the Ministry of Health to the Ministry of Education and Child Care, with a goal of aligning child care capital expansion, planning, funding, operating, vision, and quality within one ministry.
- With respect to carbon emissions, we recommend treating all publicly funded child care facilities as public or quasi public sector buildings — with respect to the "Government Leadership" commitments in the CleanBC Roadmap to 2030 — in order to put these facilities on an accelerated path to protecting children's and educator's environmental health and eliminating carbon emissions.

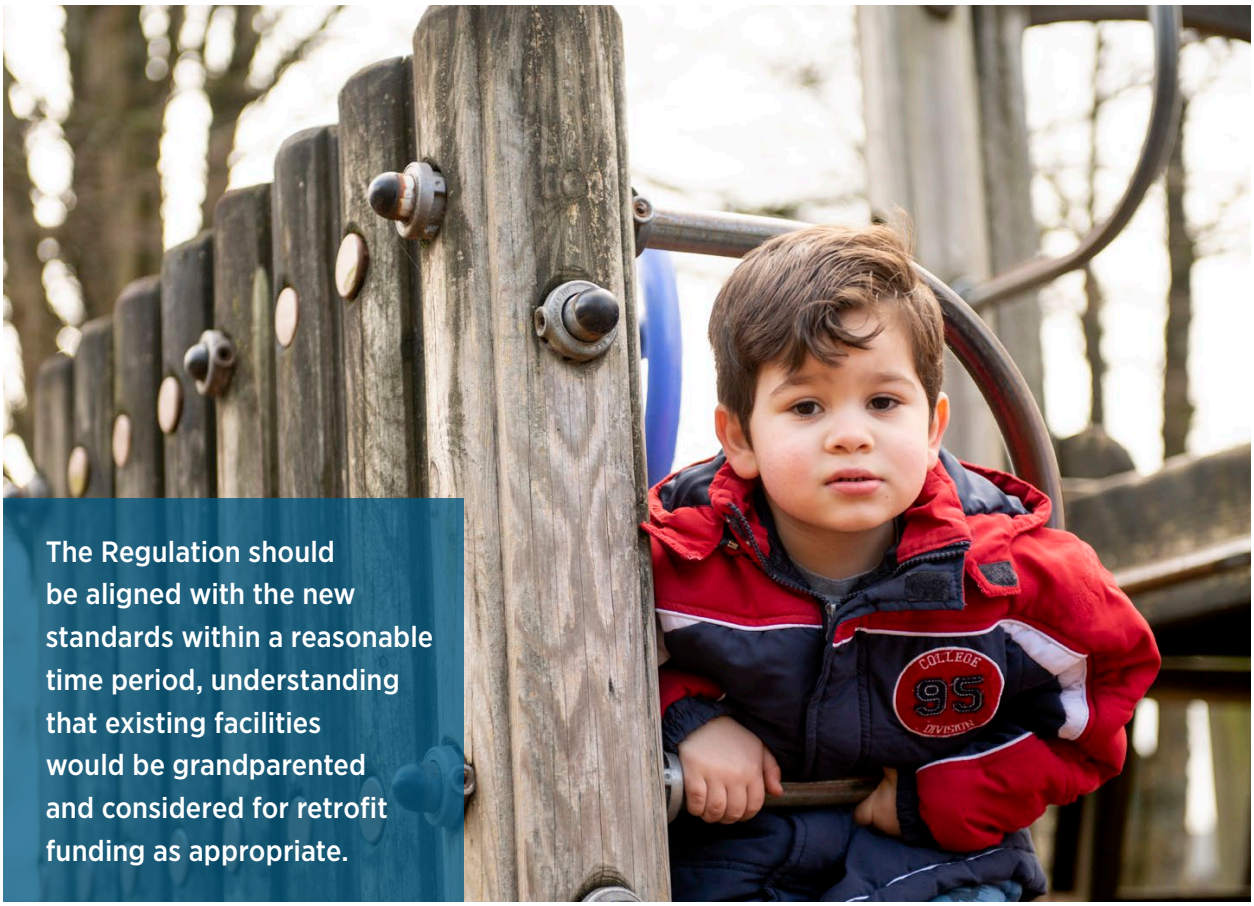
The above considerations are necessary because the current provincial child care Licensing Regulation is not designed to achieve excellence, and it was not developed in the current UNDRIP context.

Rather, the existing Regulation provides minimum (and arguably minimal) health and safety standards. Recent examples of newly funded child care programs located in strip malls or converted convenience stores with only asphalt outdoor play areas, located on congested arterial routes, next to vape shops and liquor stores, with minimal if any environmental health considerations demonstrate clearly that meeting the current regulation is not enough.

Trade-offs have and continue to be made between quality for children and educators and real estate and construction costs — the argument being that higher quality spaces result in fewer spaces being built.

However, in our new child care context, expansion is driven by public capital funding, publicly owned land, and/or publicly created value (e.g., via zoning, density and height allowances). As a result, the child care space expansion rate can be substantially decoupled from real estate and construction costs so long as there is both the political will to make the necessary long-term investments and land use decisions, as well as a more systematic public expansion plan that helps identify appropriate sites and streamlines design and build-out.[3]

With current government commitments to build a public system, the need to accept a trade-off between high quality space for children and educators, and the rate and scale of system expansion is therefore much reduced. BC's child care facility design standards should prioritize childrens' and educators' environmental health in the form of more space to play, learn, work, and grow in ways that are consistent with the Early Learning Framework and BC's legislated commitment to UNDRIP.



The Regulation should be aligned with the new standards within a reasonable time period, understanding that existing facilities would be grandparented and considered for retrofit funding as appropriate.

Specific Components of the Standards

IN THIS SECTION we provide recommendations for specific components of the new standards.

Amount of Indoor Space

The standards should align with identified best practices, leading jurisdictions, and evidence concerning healthy amounts of indoor space for children.

For example, the Jurisdictional Scan conducted as part of the current BC Design Standards project noted a best practice of 6.0-6.9m^2 for 0–3 year olds,[4] and leading jurisdictions providing ~4.5-5.5m^2 for 3–5 year olds (in both cases these figures include the net area of the main activity space plus gross motor/nap spaces).[5] Research has identified health thresholds within this general range e.g., at 5m^2.[6]

Quality of Indoor Environment

There are many nuanced aspects of design that impact the quality/functionality of any given amount of indoor space, and the new standards should speak to these. For example, by drawing on the City of Vancouver[7] and Vancouver Coastal Health Standards, and the experience of leading architects and designers who have worked with these standards and are therefore familiar with their strengths and weaknesses. In addition, the new standards should require HVAC systems that integrate heating, cooling, ventilation, and filtration.

Ducted HVAC systems should be required, where structurally feasible, to allow for integrated heating, cooling, ventilation, and efficient filtration of particulate pollution from wildfires and woodsmoke. Where ducted systems are not feasible, all of these functions should nonetheless be required via standalone components.

Ducted HVAC systems should allow for efficient filtration of particulate pollution from wildfires.

WENDELL CAROLYN PHOTO

Amount of Outdoor Space

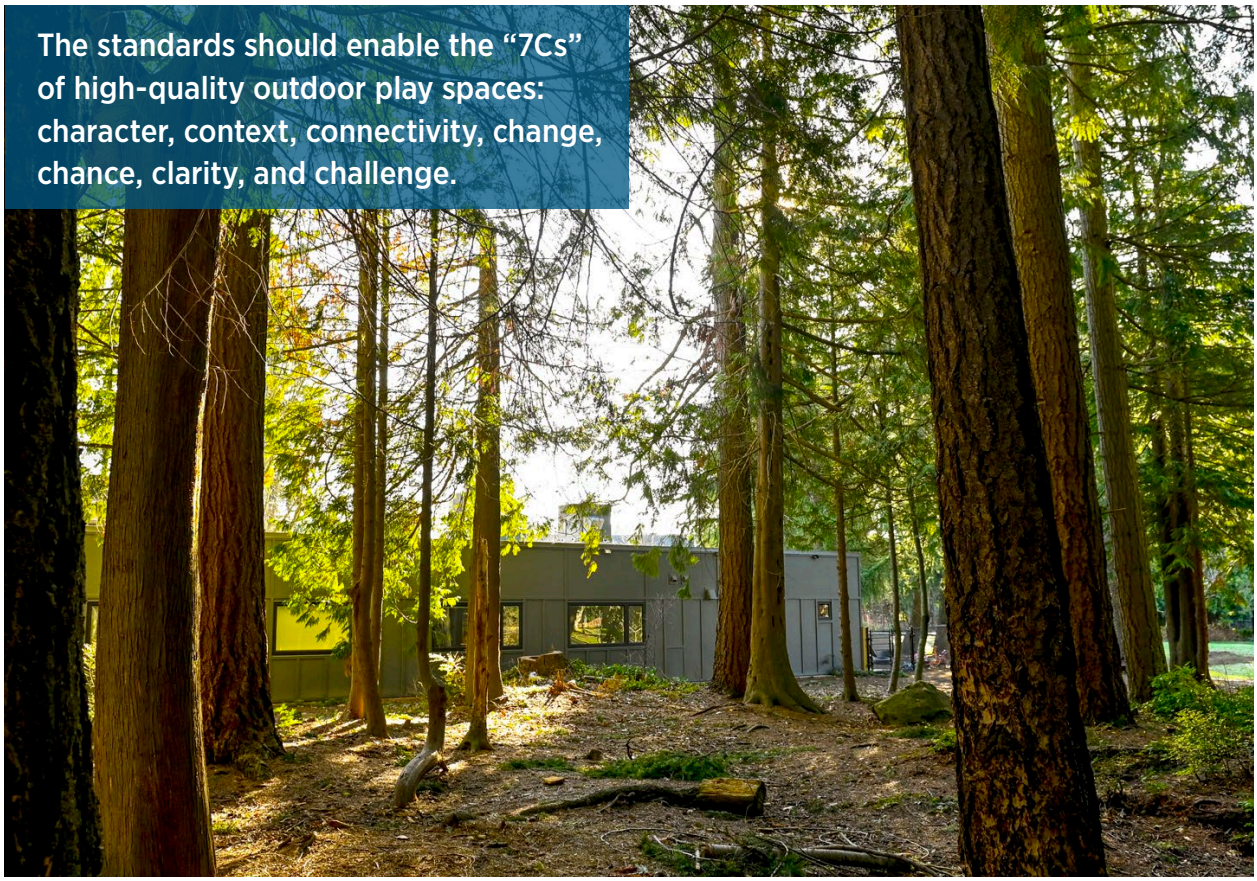
Similarly, the standards should align with identified best practices, leading jurisdictions, and evidence concerning the amount of outdoor space necessary for children to thrive.

Research[8,9] indicates that the minimum space ratio in the new child care facility design standards should be higher than BC's current licensing minimum of 6m^2 (less than half a typical vehicle parking space), and closer to the ~9-14m^2 recommended or required in other leading jurisdictions.[10] The required outdoor space should also be contiguous with the indoor space to help ensure children get adequate outdoor time.

Quality of Outdoor Environment

The standards should enable the "7Cs" of high-quality outdoor play spaces: character, context, connectivity, change, chance, clarity, and challenge.

Referring here to the BC expert-led 7Cs Informational Guide to Young Children's Outdoor Play Spaces. The Design and Cost Standards should reference and fiscally enable these 7Cs through adequate landscaping/landscape architecture and materials allowances.



The standards should enable the "7Cs" of high-quality outdoor play spaces: character, context, connectivity, change, chance, clarity, and challenge.

Siting

The standards should incorporate Vancouver Coastal Health's language defining ideal locations including those "in close proximity to other community facilities such as community centres, schools, libraries and parks" — and adopt the City of Vancouver's standards[11] for unsuitable locations.

A determining factor of both indoor and outdoor environmental quality is facility location (siting). Previous rounds of BC child care capital funding (New Spaces Fund) — including the unrealistically low $40,000 per space costing limit — have incentivized questionably-sited facilities (e.g., in strip malls and on or near busy roads or freeways). New BC-wide standards can avoid this by clearly defining and fiscally enabling ideal locations, and by including a list of criteria defining unsuitable locations. High-quality contiguous/adjacent outdoor space should be a required component of siting standards.

The standards should incorporate Vancouver Coastal Health's language defining ideal locations including those "in close proximity to other community facilities such as community centres, schools, libraries and parks" — and adopt the City of Vancouver's standards for unsuitable locations.

Carbon Emissions

The standards should include a requirement that new child care buildings use 100 per cent grid-supplied or onsite renewable electricity as their primary energy source (for both space and water heating).[12]

This 100 per cent clean energy requirement would essentially add new child care facilities to a pool of pilot building types/local jurisdictions where zero-carbon/100 per cent clean energy requirements are already being tested in advance of a CleanBC 2024–2030 phased implementation.

With respect to embodied carbon, BC capital-funded child care facilities should be added to the pool of buildings targeted for early testing and implementation of BC's Low Carbon Building Materials Strategy. The costing standards should include allowances for facilities wishing to use low-carbon building materials (e.g., wood-based structural or insulation components).

Noise

The standards should adopt best practice/leading jurisdiction acoustic standards and ensure cost allowances for acoustic treatments to meet or exceed these standards.

For example, as outlined in the City of Vancouver child care technical guidelines[13] or as recommended by experts.[14]

Natural Light

The standards should adopt best practice/leading jurisdiction standards for natural light (inside and outside).

For example, the City of Vancouver and Vancouver Coastal Health child care facility design standards call for direct sunlight[15] into the facility equivalent to 10 per cent of the wall area, and the City of Vancouver standards also specify a minimum number of hours of direct sunlight for outdoor play areas.[16] The City of Richmond's Child Care Design Guidelines call for a minimum window area equivalent to 20 per cent of the wall area, which might be more appropriate for, for example, north-facing interiors. Preference for natural light in staff offices and rooms is also highlighted in Vancouver's standards.

Modular Design Standards

The standards should enable best practice development of high-quality modular child care facilities.

As we have previously recommended, custom-designed modular child care facilities can bring significant benefits in terms of speed and affordability and, with current best design practices in place, do not compromise quality. A modular lens should be applied to relevant aspects of the provincial standards.

The standards should adopt best practice/leading jurisdiction standards for natural light. For example, the City of Vancouver and Vancouver Coastal Health child care facility design standards call for direct sunlight into the facility equivalent to 10 per cent of the wall area.

Complementary Projects

IN THIS SECTION we provide recommendations for three complementary projects we believe the province should initiate.

Updates to Licensing Regulation

The province should initiate a project to update the Licensing Regulation to align with the new, modern Design Standards.

As discussed in the Introduction, the current Design Standards project should serve as "fresh thinking" that builds and improves upon the standards in the current Child Care Licensing Regulation, which should be subsequently updated and modernized.

Operating Guidelines for Environmental Health

The province should initiate a project to develop province-wide operating guidelines for environmental health in child care settings.

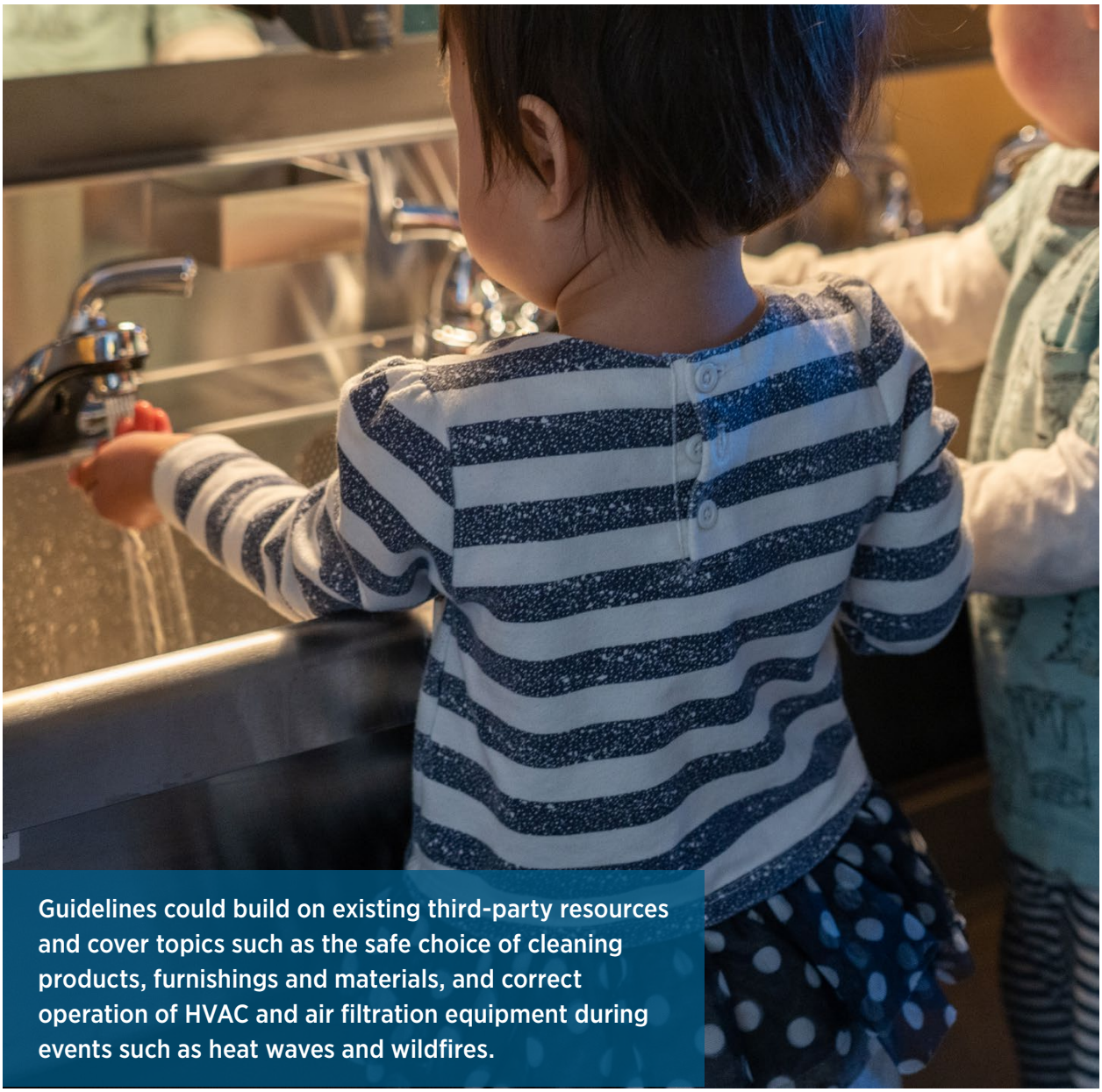
There are two key drivers of environmental health in child care settings: (1) how they're built; and (2) how they're operated. The new child care facility design guidelines — if sufficiently responsive to the recommendations above — can address the first.

The second driver could be systematically addressed with the help of complementary provincial *operating guidelines* for environmental health in child care settings. These guidelines could build on existing third-party resources and cover topics such as the safe choice of cleaning products, furnishings and materials, and correct operation of HVAC and air filtration equipment during events such as heat waves and wildfires.

Retrofit Strategy

The province should initiate a project to create a child care retrofit strategy aimed at bringing as many existing child care facilities as possible into alignment with the new standards.

This project could, for example, draw on existing information about/inventory of existing child care facilities, integrate feasibility considerations, prioritize high-impact renovations with associated capital funding, integrate accountability mechanisms for privately-owned facilities, and consider ideas such as a phased requirement for private facilities to undertake high-priority (e.g., critical to environmental health) renovations financed e.g., through BC's forthcoming PACE (Property Assessed Clean Energy) tool.



Guidelines could build on existing third-party resources and cover topics such as the safe choice of cleaning products, furnishings and materials, and correct operation of HVAC and air filtration equipment during events such as heat waves and wildfires.

Conclusion

THE SUCCESS OF THE NEW CHILD CARE FACILITY DESIGN STANDARDS in achieving high-quality physical environments depends on the degree to which they are used to *drive* child care capital planning, provincial budget allocations, and project-specific funding allowances/criteria going forward.

The current capital funding priority of $40,000/space will not achieve governments' goal of 30,000 new licensed spaces in a high-quality child-care system by April 2026. As the new standards become integrated into a true capital planning process, the required investment levels should be seen through a long-term public asset lens. Through this lens, higher per space *costs* create higher-value *assets* in BC's public accounts.

The *ongoing* returns from public investment in high-quality facilities include: (a) the numerous benefits that flow from healthier child development; (b) enhanced recruitment and retention of early childhood educators (for whom high-quality facilities support not only personal health, but educators' ability to focus on their profession, i.e., the complex pedagogical practices laid out in BC's Early Learning Framework that are required to support a foundation of lifelong learning and holistic wellbeing for children); and (c) the avoidance of expensive renovations or retrofits that might otherwise be required to address escalating climate risks, carbon targets, premature facility degradation or other consequences of lower initial standards.

Higher standards need not mean a slower build-out of the child care system, so long as there is both the political will to make the necessary investments and land use decisions, and a systematic public expansion plan that helps identify standard-aligned sites and streamlines design and construction. ■

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Notes

1 And to retrofits receiving public capital funding — with reference to our recommendation below to create a dedicated Child Care Facility Retrofit Strategy that flows from these new Design Standards.

2 Other than those developed by First Nations, Inuit, and Metis communities, whose governments may self-determine the degree to which they wish to refer to or adopt the standards or components therein, in line with the United Nations Declaration on the Rights of Indigenous People.

3 Currently, the rate of system expansion is hampered by a significant reliance on individual local organizations that must do most of the work to identify sites, design, build, and operate new facilities, and to navigate the provincial application process with all of its terms and conditions. A more centralized expansion plan and process could significantly enhance the rate of space creation. The recent funding of dedicated early learning and child care leadership positions for school districts are a welcome step in this direction, but more central planning is required e.g., outside of school district lands.

4 BC Ministry of Education and Child Care, May 202, "Child Care Design Standards: Jurisdictional Scan" (Appendix p. A-2, identified as such by the Province of Manitoba).

5 *Ibid* (Appendix p. A-3). Identified leading jurisdictions include Vancouver, Richmond, and New South Wales, Australia. Noting two caveats: (1) e.g., Vancouver's (and perhaps others') standards calculate indoor space differently than BC's Child Care Licensing Regulation, with a higher "gross" area specified that includes support spaces; and (2) space-sharing considerations where multiple programs share the same space(s) — e.g., at different times of the day — are outside the scope of our recommendations.

6 E.J. Kantrowitz and G.W. Evans, 2004, "The Relation Between the Ratio of Children Per Activity Area and Off-Task Behavior and Type of Play in Day Care Centers," *Environment and Behavior* 36 (4): 541-557. Excerpt: "The best threshold maximizing the difference in children's cortisol change was found in comparing groups with more or less than 5 m^2 … when available area per child was less than 5 m^2, the cortisol level tended to increase during the morning free play period (M = +0.77 nmol/L). On the other hand, it tended to decrease in the groups providing more than 5 m^2 per child in the play spaces…" p. 540).

7 City of Vancouver Childcare Design Guidelines, as of 2022 (created 1993 and amended 2019, 2020, and 2021).

8 For example, as summarized by S. Herrington, 2016, "Child Care Outdoor Space Evaluation Tool" (p. 20): "According to Gray (2001) there are two indicators of spatial crowding and its impacts used by researchers: 'One, based on objective observations of children, was for 90 sq ft per person (~8.4m^2); the other, based on subjective feelings of satisfaction, called for 155 sq ft per person' (~14.4m^2). Children are particularly vulnerable to the impacts of crowding because they are developing and learning to adjust from a home environment to the child care environment."

9 For example, as summarized on p. 22 of the "7Cs Informational Guide to Young Children's Outdoor Play Spaces" — which was created following a five-year multidisciplinary study led by a team of BC researchers, ECEs, government agencies and other professionals — "child to space density impacts levels of aggression, the mood, and the types of play, and the amount of gross motor activity in outdoor play… [whereby Vancouver's 14m^2 ratio was found to be associated with] more flexible space for early childhood educators to improvise different play activities… and more gross motor activities like running."

10 BC Ministry of Education and Child Care, May 2022, "Child Care Design Standards: Jurisdictional Scan" (Appendix pp. A-2, A-3), and Herrington (supra note 8, pp. 22-23), which cites *additional* jurisdictions/entities that have adopted recommendations or requirements in the ~9–14 m^2 (or higher) range, including Manitoba, the State of New Jersey, the National Association for the Education of Young Children, and the United States Army.

11 As of 2022.

12 With gas or oil systems only installed as emergency backups, i.e., the electrical heat systems should be able to accommodate peak demand.

13 City of Vancouver Childcare Technical Guidelines (pp. 11-12).

14 For example, Herrington, 2016, "Child Care Outdoor Space Evaluation Tool" (p. 3).

15 "Direct" means sunlight directly enters the facility through these openings, as contrasted with indirect light which first bounces off of surrounding elements.

16 The standards specify a minimum of three hours per day at winter solstice, two hours of which must overlap with typical outdoor play times.

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