Policy Brief: Achieving Quality in Outdoor Play & Learning Environments for Children Birth to Five

THE VISION

All preschool children have access to high quality outdoor play and learning environments containing a natural diversity of plants and wildlife, tasty food, water, dirt, and loose parts, where they can freely explore, initiate their own adventures and engage in active play (dig, garden, run, climb, hide, jump, brachiate, fish, and more), in places that are safe and exciting (wild, beautiful, peaceful, spacious, sensuous, messy, dynamic, and engaging) where imaginations can freely roam.

– *Early Childhood Outdoor Learning Policy Summit.*
Washington, DC, December 2015

INTRODUCTION

This policy brief is directed to those trying to improve the quality of outdoor spaces in childcare/child development centers, to create vital health-promoting places for rich early childhood education (ECE). Reasons why high-quality early childhood play and learning outdoor environments are so important are introduced, including research-supported benefits. Relevant early childhood environmental education frameworks and environmental assessment tools that recognize the importance of outdoor play and learning environmental quality are described. Exemplary strategies for sustainability and guidelines for achieving minimum levels of quality are discussed. Key actions required to achieve progress in outdoor play and learning environments are proposed.

A growing body of research suggests that children who attend high-quality preschool programs — particularly those from economically disadvantaged homes, develop linguistic, cognitive, social, emotional, and regulatory skills that predict improved success in many domains of life, including long-lasting positive impacts in academic performance, social skills, and attitudes towards school.

Additionally, increasing scientific evidence supports the positive health impacts on young children of spending time outdoors and being engaged with nature in live, interactive settings. A growing body of literature indicates that play and learning in diverse, naturalized environments supports all developmental domains and advances and enriches a wide array of health, learning, gross motor, and mental health benefits for children.[3]

Despite these findings, outdoor play and learning environments are virtually unmentioned in national and state level standards, guidelines, and regulations, and have been largely overlooked in the considerable efforts to enhance the quality of ECE).[16] Even though incremental renovation of outdoor spaces is a highly effective cost/benefit intervention, it has not been adopted as a health promotion strategy in low resource communities where it could have the greatest impact on children.

BENEFITS OF NATURALIZED OUTDOOR PLAY AND LEARNING ENVIRONMENTS

- Promotes cognitive development.[4]
- Improves academic performance.[5]
- Stimulates constructive, imaginative, and collaborative play.[6]
- Improves self-regulation and reduces stress and aggression.[7]
- Promotes social ability and self-confidence.[8]
- Lessens the symptoms of ADHD.[9]
- Promotes self-confidence and improves concentration.[10]
- Builds environmental stewardship ethic.[11]
- Increases understanding and appreciation of ecosystems, food systems, and environmental processes.[12]
- Advances physical fitness and gross motor development.[13]
- Improves nutrition.[14]
- Protects against myopia.[15]

ENSURING A HEALTHY START FOR ALL CHILDREN

Human health is deteriorating, beginning with children's health, which has been worsening for decades — this, at a time when income levels and quality of life are the highest in human history and many communicable diseases have been eradicated. Worsening health reflects changes in cultural lifestyles and everyday environments rather than germs. Kids are not moving enough, not spending time outdoors, and are not eating healthy food. Overweight, obesity, and related life-threatening ailments are the result.

Prevalence of overweight children ages 6 to 11 has more than doubled in the last 20 years, increasing to 18.8% in 2004, and the rate among adolescents has more than tripled.[17] Overweight and obese children suffer from a myriad of health problems, including higher risks of cardiovascular disease, diabetes, bone and joint problems, and sleep apnea.[18] These health problems are so severe that researchers warn of the possibility that for the first time in American history, life expectancy may actually *decrease* because of the health impacts of the current childhood obesity epidemic.[19]

Mental health is equally an issue. Between 2003 and 2012 the percentage of U.S. diagnosed with Attention Deficit/Hyperactivity Disorder (ADHD) increased from less than 8% to 11%.[20] One in seven children aged 2-8 years has a mental, behavioral, or developmental disorder.[21]

School readiness is seen as a growing responsibility in ECE. The K-12 standards movement has had a substantial impact on ECE, with virtually every state and territory adopting Early Learning Guidelines which specify desired ECE learning and development outcomes, often aligned with K-12 standards.[22]

ECE programs can be better positioned to support the physical, mental, and social-emotional development of children and contribute to addressing health and education challenges, but to do so all available resources must be mobilized.[23]

THE GLOBAL IMPORTANCE OF CHILDREN'S EVERYDAY OUTDOOR SPACES

At a time when Planet Earth is rapidly urbanizing, there is an increasing understanding that children are losing contact with nature, mainly for cultural reasons. This means the potential health benefits of contact with nature are reduced and children are becoming adult decision makers without understanding human dependency on the natural world – already apparent in the global crisis of climate change.

A new generation is urgently needed, who understand human dependency on the natural world, who make decisions based on a conservation ethic, and as citizens of the world are confident enough to defend and promote environmental quality, especially for children. For a recent statement supporting the need for nature-based learning, see: *The Oakland Declaration on the Vital Role of Nature-Based Learning in Promoting the Wellbeing of People and the Planet* (2018).[24]

THE POTENTIAL FOR POSITIVE CHANGE

Beginning as early as six weeks old, millions of US children spend most of their week in childcare/child development centers. Because they are highly regulated, these institutions have great potential as health-promoting environments. They are the strongest predictors of physical activity but could be far more influential. Childcare outdoor spaces have the greatest untapped potential. They are places where kids move more and where they can engage in hands-on gardening, eat the products of their labor, and grow up enjoying fresh fruit and vegetables.

However, the outdoor spaces of most childcare do not support this potential because they are barren, boring, uninviting spaces for both children and teachers. Often, regulations are an impediment to change and innovation mainly because their scope addresses a narrow band of health and safety concerns. This leaves a wide measure of interpretation on the part of inspectors/regulators/raters, who professionally and for good reason, err on the side of conservative judgement calls.

Childcare/child development systems need evidence-based regulations that promote health-enhancing child development in licensed outdoor play and learning areas that expose children to natural ecosystems and biodiversity, interwoven with activity settings supporting a full range of play and learning opportunities across all developmental domains.

REGULATING QUALITY

The roles of regulators and childcare/child development facility licensing inspectors are crucial to naturalizing OLEs and improving their quality. Regulation is primarily a state and county government function that varies considerably across the nation. Local zoning laws and building codes may also apply but vary in influence substantially by location.

Primary sources of regulation are:

- State Divisions of Child Development.
- State and County Public Health Agencies.
- Federal Head Start and Early Head Start programs.
- School Districts (pre-K programs).

Three sets of national design guidelines; which, although not mandatory, are available to influence built environment decisions. Applied by architects, landscape architects, related professionals, client groups, and community stakeholders to frame design issues, guidelines influence design thinking, affect budget decisions, and suggest design solutions. Each to varying degrees addresses outdoor space.

The three guidelines are:

- *Federal Child Care Center Design Guide* (2003). General Services Administration.[25]
- *Head Start Design Guide* (2006). US Department of Health and Human Services.[26]
- *Supporting Outdoor Play and Exploration for Infants and Toddlers* (2013). Early Head Start National Resource Center.[27]

EARLY CHILDHOOD ENVIRONMENTAL EDUCATION FRAMEWORKS

Outdoor learning environment quality is essential for effective environmental pedagogy. Five contemporary early childhood curricular framework guides were selected to review with regard to the design and management of outdoor learning environments. None focus particularly on childcare centers or outdoor settings but rather on the broader range of non-formal education places such as nature centers, museums, and botanical gardens where environmental education programs already are or could be implemented. Two of the five (NAAEE, 2010 and CEE, 2009), are structured documents resulting from national level team efforts. The other three are single-author book publications.

Early Childhood Environmental Education Programs: Guidelines for Excellence (2010), North American Association for Environmental Education (NAAEE), Washington, DC. Thirty-two guidelines support six Key Characteristics (Program Philosophy, Purpose, and Development; Developmentally Appropriate Practices; Play and Exploration; Curriculum Framework for Environmental Learning; Places and Spaces; Educator Preparation). Hands-on learning through nature permeates the whole in words and images and is specifically called out in Guidelines: 1.1 Focus on nature and the environment; 3.1 Use of the natural world and natural materials; and 5.2 Natural components. Key Characteristic 5: Places and Spaces, includes six Guidelines and 49 indicator items, which could be used as beginning steps to creating an assessment tool for early childhood environmental learning and education settings.

Growing Up Wild: Exploring Nature with Young Children (2009), Council for Environmental Education (CEE), Houston, TX (128 pages, illustrated). This useful curricular guide, targeting children 3-7 years and formal and non-formal educators, is part of Project WILD, "an interdisciplinary conservation and environmental education program emphasizing wildlife" sponsored by a network of state wildlife agencies. Twenty-seven activities, connected to health, math, literacy, arts and crafts, music & movement are presented in an 11"x17" standard format, covering wildlife topics, including take-home (bilingual) activities. Appendices include teacher materials, a children's book list, listings of connected Head Start Domains and NAEYC Standards and useful organizations.

Discovering Nature with Young Children (2003), Ingrid Chalufour and Karen Worth (157 pages, illustrated). This book is part of the Young Scientist Series, funded by the National Science Foundation and housed at the Education Development Center (EDC, founded 1958). Directed towards early childhood educators in formal institutions, the book was developed with a team of pilot teachers and advisors, and field-tested in 25 early childhood centers across the U.S.

Natural Wonders: A Guide to Early Childhood for Environmental (2002), Ed. Marcie Oltman (12 pages). This slim publication is included because it is possibly the most compact, easy to read, succinct guide for teachers working with an inquiry-based, active learning approach to environmental education. While it does not directly address the design and management of "where" learning happens, it clearly implies the requirements for success.

Learning is in Bloom: Cultivating Outdoor Explorations (2016), Ruth Wilson, PhD (190 pages, illustrated). The author is a leading authority in early childhood environmental education. Five thematic chapters (Connecting Children with The Rhythm of Nature; Connecting through Play; Exploration and Experimentation; Indoor/Outdoor Connections; Connecting through Language, Literacy, and The Arts), collectively include 40 hands-on lesson plans.

ENVIRONMENTAL ASSESSMENT TOOLS

Environmental assessment is fundamental to both facility licensing processes and Quality Rating Improvement Systems (QRIS), used in nearly all mainland states to elevate childcare quality. Tools are developed by teams of researchers knowledgeable of the target environment. Tools are used by researchers to measure environmental performance, processes, and quality, and by trained environmental raters to identify areas and items requiring improvement. Environment is usually defined broadly to include psycho-social, pedagogical, administrative, health and safety, and other factors, but not necessarily physical design attributes. Historically, design researchers and practicing design professionals have not been represented in tool development, which means practical issues of application may be overlooked.

The nine environmental assessment tools reviewed here were selected as the most commonly used and/or because they address assessment of childcare outdoor environments. They are reviewed from the perspective of outdoor environmental quality, assessment of natural factors, and potential for learning through nature.

1. ***Environment Rating Scales*** (Harms, et al., 1989, 1990, 1996, 1998, 2003). This widely used set of four reliable, validated scales was developed by the UNC Frank Porter Graham Child Development Institute (FPGCDI). The scales cover infant/toddler, early childhood (preschool), family childcare, and school-age environments. According to the FPGCDI website, the scales are "designed to assess process quality," where environment is defined broadly to "guide the observer to assess the arrangement of space both indoors and outdoors, the materials and activities offered to the children, the supervision and interactions (including language) that occur in the classroom, and the schedule of the day, including routines and activities." Only three of 43 ECERS-R items relate to nature or the outdoor learning environment. A center can therefore achieve an excellent rating with only minor representation of the outdoors.[28] Of 396 descriptors used in the ITERS scale, only 8.8% pertain to the physical, designed environment.[29]
2. ***Accreditation Standards, National Association for the Education of Young Children*** (NAEYC, updated October 1, 2015. 107 pages, 10 Standards). The NAEYC Accreditation Standards represent the highest level of certified quality childcare centers aspire to meet. The 10 Standards (domains) each contain subscales with items addressing five age groups (infant, toddler, preschool, kindergarten). Noteworthy is the use of the term "outdoor [and indoor] learning environments" within the Physical Environment Standard.

3. ***Preschool Outdoor Environment Measurement Scale*** (POEMS, 2005. 30 pages, 5 Domains, 54 items) was developed by researchers at NC State University and UNC-Greensboro to measure outdoor environment quality, motivated in part by the limitation of ECERS with regard to outdoor spaces. Development was also stimulated by a concurrent, successful collective effort by NC child development advocates requesting the NC Child Care Commission to substitute "outdoor learning environment (OLE)" for "playground" in the NC Childcare Licensing Rules (adopted in 2007). Of five POEMS domains, two focus on physical space (Physical Environment—assessing areas around the building, its siting, indoor-outdoor transitions, natural diversity, sun exposure, shade and more; and Play and Learning Settings—assessing licensed outdoor areas used by children). Of 54 assessment items scored dichotomously, eighteen or one third, are either entirely devoted to a nature-related topic or contain one or more nature-based sub-items.

4. ***Children's Physical Environments Rating Scale*** (CPERS-5, 2010, 5th revision. 39 pages, 14 subscales), was initiated in 2003 by environment-behavior researcher Gary Moore who has led the team effort since then through several revisions. CPERS is the only scale reviewed that focuses exclusively on the physical, designed environment (indoors and outdoors). The outdoor scale does not differentiate areas for infants, toddlers, and preschoolers. Gardening, food, and nutrition items are not included.

5. ***Go NAP SACC*** (Nutrition and Physical Activity Self-Assessment for Child Care, Ward et al, 2008) is an online tool to help early care and education programs improve their nutrition and physical activity practices (https://gonapsacc.org/about-nap-sacc/research-evidence). Go NAP SACC is an evidence-based program, created in 2002 by a team of childhood obesity researchers at UNC Chapel Hill in association with the Nutrition Services branch, North Carolina Division of Public Health. The aim is to improve childcare center nutrition and physical activity practices. 'Outdoor Play and Learning,' one of the self-assessment instruments, contains four subscales (Outdoor Playtime, Outdoor Play Environment, Education and Professional Development, and Policy). Twenty items, scored with a 4-level scale, cover infants, toddlers, and preschool age groups. 'Gardening' and 'Shade' are included. Natural materials are briefly mentioned.

6. ***Outdoor Play Space Assessment for Infants and Toddlers*** (2012, Head Start Body Start (HSBS), National Center for Physical Development and Outdoor Play, 7 pages, 8 Categories, 27 Criteria. Positive aspects include an exclusive focus on outdoor space, brevity, differentiation of infants and toddlers, inclusion of diverse natural and manufactured sub-items, and a 5-point rating scale. Scale is limited by a lack of validation and reliability. May serve a useful checklist but not as a viable assessment tool.

7. ***Outdoor Play Space Assessment: 3-5 Year Olds*** (nd, Head Start Body Start, National Center for Physical Development and Outdoor Play, 5 pages, 11 Categories (items). Adapted from a British practice guide and POEMS (reviewed above). However, the POEMS dichotomous coding is replaced with a 5-point scale to rate conglomerated items so the POEMS validity and reliability no longer holds.

8. ***Outdoor Learning Environment (OLE) Toolkit*** (2014, currently under revision). This NLI professional development resource is a product of Shape NC, based on Preventing Obesity by Design (POD) outcomes at 60 POD demonstration sites in North Carolina. POD is a childcare center built-environment intervention launched in North Carolina in 2007, now being adopted by additional states. Shape NC, now in its third phase, was launched in 2011 to promote healthy eating and active play from birth through age five in NC childcare programs and communities.

   The OLE Toolkit includes six guides. Guide #2, defines 13 Best Practice Indicators based on POD practice and evaluation data, scored across a 4-point scale. They address:

   1. *Diversity of play and learning opportunities:* There are 10 or more play and learning settings.
   2. *Active play:* There is a looping, curvy, primary pathway for circulation and wheeled-toy use.
   3. *Group activities:* There is a grassy area for games, activities, and events for 25 or more children.
   4. *Comfort:* There are sufficient shady settings in addition to trees.
   5. *Dramatic, constructive, social play:* There is a variety of natural, loose materials, accessible for children to play with them.
   6. *Extending play and learning opportunities:* There are sufficient, different types of wheeled toys, portable play equipment, and play materials, accessible for children to play with them.
   7. *Fitness:* There are sufficient gross motor activities supported by the OLE.
   8. *Green canopy:* There are sufficient trees.
   9. *Edible landscape:* There is a proportion of trees that are edible fruiting species.
   10. *Biodiverse understory:* There are sufficient shrubs and vines (including fruiting species), and ornamental grasses.
   11. *Healthy eating:* There is a designated vegetable garden with sufficient produce for snacking and/or meals.
   12. *Outdoor learning:* There is outdoor classroom space.
   13. *On-hand tools and materials:* There is outdoor storage.

   (Several of the items where adapted by Go NAP SACC through Shape NC research collaboration.)

EFFECTIVE SUSTAINABILITY STRATEGIES

Achieving quality in outdoor play and learning environments requires innovation across policy systems and institutional routines, which is never easy regardless of the sector. Barriers to progress are always present to be overcome. Key strategies that have proven effective in the past include:

Policy change is critical but often not possible until the "case" or "proof of concept" has been demonstrated and compelling evidence has been assembled to support advocacy. In the early 2000s, the *North Carolina Outdoor Learning Environments Alliance* organized as an informal, statewide group of interested professionals to advocate for change to the NC Licensing Rules relative to the outdoor spaces in childcare centers.

At that time the rules were focused on manufactured playground equipment, framed by the Consumer Product Safety Commission *Safety Guidelines for Public Playgrounds*. Centers serving economically disadvantaged families could not afford such "lumpy" expense; and besides, there was a growing realization that equipment made for public parks and playgrounds was not developmentally suitable for environments used by young children five days a week, year-round, where the focus should be diversity of play and learning opportunity. The Alliance was also convinced that nature was essential to high quality outdoor learning environments.

The Alliance assembled the arguments, identified examples, worked closely with the NC Division of Child Development and Early Learning (NC-DCDEE), and presented the case to the NC Child Care Commission. In 2007, Chapter 3 of the rules was renamed "Outdoor Learning Environment" and the term "playground" in the rules was similarly changed. The bulk of the chapter still addresses minimum health and safety requirements; BUT, the opening page offers a broad statement emphasizing free play and that "spending time outdoors, exposed to fresh air, sunlight, and natural elements such as trees and grass, provides many health benefits." More than ten years later, results on the ground bear testament to the importance of the enabling policy fully supported by NC-DCDEE regulators.

Creating demonstration sites. The OLE policy change provided a much-needed impetus for funding to support demonstration sites as visual expressions in action of what high quality OLEs look like, which provide hands-on training sites for demonstration site teachers and teachers from other centers in the local area to begin sowing the seeds of change.

Showcasing demonstration sites is important to develop public understanding of the importance of OLE renovation, celebrate adoption of OLE policies and best practices, and to recognize achievement with awards.

For those embarking on creation of an individual demonstration project or to begin the process of system-level change, the following basic guidelines may be useful for initial guidance:

Engaging regulators and raters in the change process. In North Carolina, NLI collaborated with NC-DCDEE to organize a year-long program called "Creating a Suppotive Network," the purpose of which was to bring together all 200+ licensing consultants and environmental raters from across the state to participate in a two-way conversation about how to support implementation of the new OLE policy and at the same time fulfill the continuing, challenging task of regulating health and safety. A launch and closing plenary were held via the NC-DCDEE statewide intranet. Three well-attended regional symposia were offered at convenient venues across the state. A pre/post participant survey was administered, which indicated substantial positive changes in OLE knowledge and attitudes. Many participants commented on how rewarding and informative the experience had been. At the beginning of the 12 months, attitudes and levels of knowledge varied widely. At the end, they were far more consistent. Click here for details.

Busting the Myths (what can or can't be done). Prior to Creating a Collaborative Network, NC-DCDEE created "The Myth Busters" — a conference panel of leaders in licensing, sanitation, and environmental assessment to field questions from the audience focused on issues confronted during center inspections. The panel was repeated in various forms over several years at state and regional gatherings. Each was recorded, the responses organized by agency, and posted online.[27]

Comprehensive models: Sustainability is unlikely without multi-year implementation combining design assistance, incremental development, technical assistance, on-site teacher training, and evaluation research to inform on-going model evolution and course correction. This strategy will more likely produce demonstration sites that exemplify best practices.

Certificate Programs are a powerful means of elevating professionalism of the field OLE knowledge, pedagogy, and management methods. NLI runs two, successful certificate programs

BASIC GUIDELINES FOR ACHIEVING OUTDOOR LEARNING ENVIRONMENT QUALITY

1. Formally designate space as an outdoor play and learning environment.
2. The outdoor play and learning environment has at least two gross motor features (e.g., looping pathways or climbing features).
3. The outdoor play and learning environment has at least two outdoor learning settings (e.g., gardening area, loose parts setting, dramatic play setting).
4. The outdoor play and learning environment contains a diverse selection of plants and habitats representative of local flora and fauna.
5. The outdoor play and learning environment includes natural features that enrich children's play and learning (trees, shrubs, or vines; topographic variations – mounds, terraces, slopes; a variety of ground surfaces – mulch, grass, pebbles; smooth rocks, wood or logs; non-poisonous flowering plants or garden plants and vegetables; birdfeeders, bird baths and birdhouses.
6. An outdoor water source for irrigation is available
7. The outdoor play and learning environment contains a looping pathway and wheeled toys.
8. At least 30 minutes of outdoor time is offered per three hours at the center.
9. Consumption of fruits and vegetables grown by children is expressly allowed.
10. A nature supplement for early learning guidelines is adopted.
11. Professional development for enhancing and utilizing the outdoor play and learning environment is provided.
12. Each center has outdoor space of at least 75 sq ft per child, with exemptions granted only if the center has no outdoor space and daily walking outings to nearby parks or public spaces are provided.

— one for early childhood educators. The other for landscape designers. A key to success was funding to reduce registration costs for the first two cycles while building a following, responding to feedback, and tweaking the content. Click here for details.

Establishing permanent links to higher education represents the most substantial sustainability strategy. This is particularly true for community colleges where OLE-related curricula modifications increase knowledge and awareness of students joining the workforce immediately after graduation. North Carolina community colleges operate a standardized curriculum library across the system, to which NLI has added curricular modules to be adopted by the departments of early childhood education, culinary arts, horticulture, landscape management, and construction. At the university level, relations rely more heavily on nurturing the interest of individual faculty and/or encouraging programs to establish specialization in their more advanced offerings. Links to online resources that can be used in existing courses are also important.

The overall long-term strategy for success is multi-level training and professional development continuously updated and refreshed with new ideas and examples to keep the "learning and implementation community" engaged and moving forward.

ACHIEVING PROGRESS

The 2015 survey of national experts and leaders in the field of early childhood education solicited opinions from 22 respondents representing a diverse range of professional roles, including center directors/assistant directors, college instructors, policy makers, administrators, researchers, technical assistance provider/trainers, environmental educators, classroom teachers, landscape designers, and others. Results provide a high-level view of progress in the field and underscore issues to be addressed to achieve success. In summary:

Outdoor play, learning, and nature. Play and learning go hand in hand in naturalized OLEs. Supported by research, they benefit overall child development. Loose parts stimulate self-initiated activity. Teachers need to be encouraged to support interaction with natural elements and not let personal fears about nature get in the way.

Indoor-outdoor learning. All curricular areas can be supported by high quality OLEs. Naturalization of outdoor – and indoor spaces – should be the norm. Outdoor activities should focus on those that are difficult or impossible to support indoors.

Risk management. Children need to take safe risks to support healthy development and in order to learn. Minor injuries are an inevitable part of the process. Authoritative sources are required to guide risk management.

Licensing and sanitation rules in relation to outdoor environments vary across jurisdictions and are unevenly administered. They may negatively influence OLE quality and therefore narrow the possibilities for outdoor play and learning. Inspectors may not know how to address natural components and sometimes contradict each other. Supplementary information, training materials, and consistent staff training can help address this issue.

State regulations that support or hinder OLE innovations. Several states have recently developed or revised regulations in support of naturalized OLEs, although the reverse still exists where regulations take no account of OLE quality. Lack of consistency in administering state regulations and large differences between them are problematic and get in the way of developing consistent, national standards for OLE implementation and training. "Weather permitting" rules are highly variable from one part of the U.S. to another. Revisions to QRIS (Quality Rating Improvement Systems) and similar assessment systems may help advance OLE value.

Other regulations. Requiring shade trees could support OLE value. No examples of other regulatory hindrance were given, which suggests that mandated regulatory standards are the primary source of control of OLE quality.

Other barriers. Parental attitudes and perceptions negating OLE value can be a barrier, compounded by teachers not being trained to value the OLE and thus not advocating OLE installation and use. Policy makers need to be convinced of OLE value. Perceptions that OLE development can be costly need to be counteracted. Insurance company concerns need to be addressed. Positive media messages can help.

Strategies to address barriers. The primary need is to engage, educate, and inform those responsible for creating and programming childcare center outdoor spaces concerning OLE value. More effort is required to educate decision makers, the professionals involved, and the general public.

CONCLUSION

National survey respondents agreed that outdoor play and learning are crucial aspects of healthy child development and that high quality naturalized outdoor learning environments can offer particular opportunities for learning that are unavailable indoors. The need for children to take safe risks to support healthy development was also supported. However, the lack of authoritative risk management guidance is a problem. Outreach to insurance companies is required. Barriers to OLE value being understood and implemented include varied, inconsistently enforced state licensing and sanitation regulations. Greater effort is required to educate decision makers, regulators, teachers, parents, designers, developers, and the general public concerning OLE value. Positive media messages would help.

ENDNOTES

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This NLI policy brief is based on the results of a 2015 survey of national experts and leaders in early childhood and environmental education and a related Early Childhood Outdoor Learning Policy Summit, hosted by the U.S. National Arboretum, Washington, DC, December 2015, jointly organized by the North American Association for Environmental Education (NAAEE), the National Wildlife Federation (NWF), and the Natural Learning Initiative (NLI), NC State University. This policy brief was also guided in part by an internal report, *Early Childhood Outdoor Learning Environment (OLE) as an Educational Resource: Assessing Regulatory Impacts and the Need for Design Tools to Increase Quality*, and a summit-related report authored by Allen Cooper.

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