Best Practices for Improving Indoor Air Quality in Child Care Centers

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ALLEGHENY COUNTY
DEPARTMENT OF CHILDREN INITIATIVES

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Best Practices for Improving Indoor Air Quality in Child Care Centers

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Allegheny County Department of Children Initiatives (DCI) leads Allegheny County's commitment to children and youth and the programs that serve them. DCI provides the local government structure to support equitable access to high-quality programming for children and their families through systems building, internal and external partnerships, and resource development.

The Allegheny County Health Department's (ACHD) mission is to protect, promote, and preserve the health and well-being of the more than 1.2 million people who call Allegheny County home. It is one of only six health departments in Pennsylvania to be accredited by the Public Health Administration Board.

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PREFACE

Nationally, issues of Indoor Air Quality (IAQ) have received increased attention in the years after the COVID-19 pandemic. Respiratory infections, such as RSV, Influenza, and COVID-19, are a common consequence of poor indoor air quality, and disproportionally affect children. Children breath in more air relative to their body weight than adults do, and because of that they are highly susceptible to poor indoor air quality. It is important that public spaces serving children, such as child care programs, community centers, and schools, focus on improving their indoor air quality.

In 2023, the Allegheny County Department of Children Initiatives (DCI) partnered with the Allegheny County Health Department (ACHD) to execute the **Allegheny County Child Care Indoor Air Quality Improvement Pilot**. Allegheny County contracted with Stantec Inc., an international engineering, architecture, and environmental consulting firm, to observe selected child care facilities in Allegheny County and recommend facility strategies for improving the indoor air quality. DCI then contracted with local HVAC and environmental services providers to implement improvement strategies in the selected child care facilities.

Upon completion of the initial cohort of the pilot, DCI, ACHD, and Stantec created this guide to share critical information around identifying and implementing successful indoor air quality improvement strategies in child care centers. The information in this guide can be adapted, adopted, and implemented in child care centers across Pennsylvania, and is intended to be a resource for child care providers, and those who serve them, to identify achievable improvements in indoor air quality.

Recommendations are connected to the Pennsylvania Department of Human Services' (DHS) regulations for Child Care Centers (55 Pa. Code, Chapter 3270), the Pennsylvania Department of Health general health and safety regulations (28 Pa. Code, Chapter 27) and the Pennsylvania Quality Rating and Improvement System (QRIS), Keystone STARS, Performance Standards.

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Acronyms / Abbreviations

A	Amps
A/C	Air conditioning
ACHD	Allegheny County Health Department
AHU	Air handling unit
ASHRAE	American Society of Heating, Refrigeration and Air-Conditioning Engineers
AQI	Air Quality Index
CAV	Constant air volume
CDC	U.S. Centers for Disease Control and Prevention
CFM	Cubic feet per minute
DHS	(Pennsylvania) Department of Human Services
DCI	(Allegheny County) Department of Children Initiatives
EPA	U.S. Environmental Protection Agency
HVAC	Heating, ventilation, and air conditioning
IAQ	Indoor air quality
IMC	International Mechanical Code
LMRO	Local morbidity reporting office (local health department)
MERV	Minimum efficiency reporting value
QRIS	Quality Rating and Improvement System
RSV	Respiratory syncytial virus
RTU	Rooftop unit
TEMP	Temperature
TSTAT	Thermostat
V	Volts
VAV	Variable air volume

How to Use this Guide

This guide was created for use by certified, center-based child care providers in Pennsylvania. The goal of the guide is to equip providers with the necessary information needed for them to make improvements to the overall indoor air quality in their child care facility.

The guide is organized into three main sections. The first section outlines the information necessary to understand the importance of indoor air quality to the health and safety of the children and adults in any child care program. The second section presents child care providers with easy-to-understand information about identifying the type of mechanical ventilation in their child care facility, diagnosing the presence of any common air quality issues, and administering potential solutions to the problems. The third and final section of the guide recommends simple policies and practices that center-based child care providers can implement in their programs to improve their indoor air quality. These recommendations are connected, when applicable, to Pennsylvania state child care regulations and quality rating and improvement system.

The end of the guide contains additional resources for child care providers to better understand the importance of indoor air quality in their facility, as well as appendices to support the implementation of new policies and practices. Many of these resources are from the Pennsylvania Chapter of the American Academy of Pediatrics' *Model Child Care Health Policies* (2014), the leading source of child care health and safety best practices in Pennsylvania.

It is recommended that center-based child care providers use portions of this guide as needed based on their child care facility and current policies and practices in place.

1 Understanding Indoor Air Quality

Indoor Air Quality (IAQ) refers to the air quality in and around buildings, especially as it affects the health of building occupants.[i] Air quality is measured by the type and number of pollutants in the air. These pollutants include big and small particulate matter (PM10, PM2.5), Lead, Carbon Monoxide, Sulfur Dioxide, and Ozone. There are many sources of indoor air pollution and not all are readily visible.

Main pollutant sources include:

- Biological contaminants (mold, dust, pet dander, pollen, animal droppings, bacteria, viruses)
- Fuel-burning appliances (gas and wood stoves, fireplaces, heaters)
- Tobacco products and second-hand smoke
- Building materials and furnishings
    - Lead paint
    - Flooring, upholstery, carpet
    - Cabinetry or furniture made of certain pressed wood products (formaldehyde)
- Deteriorating insulation (asbestos)
- Cleaning and personal care products
- Excess moisture (wet/ moist walls or carpet, unclean humidifiers)
- Outdoor sources
    - Radon
    - Pesticides
    - Outdoor air pollution

Any number of these pollutants can be present in a child care facility. The U.S. Environmental Protection Agency (EPA) estimates that the air in child care facilities is two to five times more polluted than outside air.[ii] This is particularly troubling as children are more susceptible to the effects of contaminated air than adults, and poor indoor air quality can drastically escalate the spread of diseases such as RSV and COVID-19.

1.1 Health Effects

1.1.1 Short Term

Children and adults exposed to poor indoor air quality can exhibit a variety of immediate negative health effects. These can include eyes, nose, and throat irritations (e.g., watery or stinging eyes, runny nose, coughing, wheezing, tightness of breath), headaches, dizziness, fatigue, and an increase in asthma attacks. While reactions to indoor air quality pollutants can vary from individual to individual, children are defined as a vulnerable population by the EPA and are more likely to experience negative effects.

1.1.2 Long Term

Children are also more susceptible to long term negative effects of poor indoor air quality as they are still developing. A person's lungs are not fully developed until six to eight years of age, and young children can be more easily harmed by infection and illness caused by air pollution.[iii] Long term exposure to poor indoor air quality as a child can lead to debilitating or fatal respiratory and neurological damage. Poor indoor air quality has been linked to various chronic and long-term effects in children, including asthma, allergies, lung disease, cancer, and neurological damage.[iv] Exposure to indoor air pollutants as a young child can also lead to developmental delays, socio-emotional issues, and learning loss.[v]

1.2 Taking Control

While indoor air quality challenges may sound scary or overwhelming, there are simple steps child care providers can take to reduce the risk of current pollutants in the air and prevent further pollution in a child care facility. The main solution to decreasing air pollutants and improving indoor air quality is ensuring the child care center has adequate natural and mechanical ventilation. Ventilation refers to the amount of outside air entering the center—natural ventilation occurs through open windows and doors, while mechanical ventilation occurs through HVAC systems installed within the facility. After ensuring proper ventilation, child care providers should implement policies and practices that minimize the number of new pollutants occurring.

The following sections of this guide review potential mechanical ventilation systems, issues, and solutions present in child care centers; present ways to improve natural ventilation; and recommend policies and practices to implement. This guide is meant to help center-based child care providers improve their indoor air quality and create a healthy environment for children to thrive.

Curious about the air pollution present in your child care center? The only way to detect and report pollutants in your indoor air is to monitor the air utilizing a low-cost air pollution monitor, or by hiring an environmental monitoring company to conduct an air assessment. Learn more about low-cost air pollution monitors here: Low–Cost Air Pollution Monitors and Indoor Air Quality | US EPA

2 Child Care Ventilation

The following section describes common child care ventilation systems and highlights frequently found deficiencies and potential solutions to the many challenges faced. It is meant to support providers in understanding their facility's current ventilation system and provide accessible options for improvement, from an air quality and HVAC standpoint.

2.1 Common Ventilation System Types in Child Care Facilities

2.1.1 Residential Air Handler

Residential Air Handlers are mostly found in homes and smaller businesses. They are typically installed in a basement, attic, or closet. The system is a basic air handler that contains a blower fan, a filter section, a heat exchanger, a furnace section (typically gas-fired), an air conditioning coil (if equipped) and supply and return ductwork. The air conditioning coil is connected via piping to a condensing unit, typically located outside of the building.

These systems contain supply ductwork that deliver the conditioned air (air that is heated and cooled by the system) to the spaces within the building. They also contain return ductwork that brings air back from the spaces within the building to be reconditioned by the air handler.

The blower fan creates negative pressure and effectively pulls the return air from the spaces in the building through the filter section. The fan then blows this air through a heat exchanger and, if equipped, across the air conditioning coil. Depending on the season, either the furnace is running to provide heat, or the air conditioner is running to provide cooling.

These systems are controlled via a thermostat located somewhere in the building. The most basic of thermostats have settings to either heat or cool the building. For example, when the thermostat is set to cooling, a desired room temperature is set and if the building rises above this temperature, the thermostat will send a signal to the system to turn on the air handler and activate the air conditioning system. The system will run until the set temperature point is met. The opposite happens in heating mode—if the building falls below the set temperature point, the thermostat will send a signal to the system to turn on the air handler and will activate the heating / furnace system, running until the set temperature is met.

2.1.2 Packaged Rooftop Unit (RTU)

In many cases, a packaged rooftop unit system works using the same principles as the residential air handler, just on a larger scale and located on the outside of the building (roof). These systems contain fans to move the air, filters, heat exchangers, air conditioning coils, and supply and return ductwork. Typically, packaged RTUs have an outside air damper that is set to control how much ventilation air (outside air) is delivered to the spaces. The amount of outside air is determined through calculations complying with IMC and ASHRAE guidelines and procedures. Having adequate levels of ventilation air helps the building feel less "stuffy" and can help dilute carbon dioxide levels and other air contaminants in the space.

These systems are controlled in a similar fashion as the residential air handler, via a thermostat in its most basic of forms. There are more complicated controls and sequences that can be implemented as well. Packaged RTUs are usually found in commercial settings and are often economical ways to provide heating, ventilation, and cooling to a building.

2.1.3 Mini-Split System

Mini-split systems can be used in houses and commercial buildings. Because these are ductless systems, they are good options for existing buildings that may have limited access to ceiling space or other limitations that would prevent installing a ducted system. The system uses the basic refrigeration cycle to provide cooling (and sometimes also heating, if in a heat pump configuration) to a space within a building. A unit is installed inside, typically mounted to a wall, which contains an evaporator coil. A separate condensing unit is installed outside that contains a condensing coil and a compressor. The compressor moves refrigerant (cooling liquid) between the indoor and outdoor unit to transfer heat from the space to the outside.

These systems are controlled via a thermostat. Some of these systems have thermostats mounted directly to the unit and are controlled via a remote controller, while others have a traditional wall-mounted thermostat for control. Each option works the same—a desired set temperature point is entered, and the system will turn on and off as needed to maintain the temperature.

2.1.4 Window Air Conditioning (A/C) Unit

Window A/C units work like any other air conditioning system and can be found in any style of building. They are installed directly into a window opening of a building and are intended to provide cooling to just the space in which they are installed. They are essentially a tiny version of a packaged RTU without ductwork. They draw warm room air into the unit, blow

it across a refrigerant filled air conditioning coil, and then blow it out into the space as cold conditioned air. A small compressor moves the refrigerant around between the evaporator coil and the condensing coil. The evaporator coil is where heat from the space is transferred into the refrigerant and carried to the condensing coil. At the condensing coil, air from outside is blown across the coil to transfer the heat out of the refrigerant and into the air, cooling the refrigerant so that it can head back to the evaporator coil to absorb heat from the space again.

These systems are controlled via a thermostat that is typically mounted directly on the window air conditioning unit. Like other systems, the thermostat is set to a desired temperature, and it will command the system to turn on or off to maintain the desired set temperature point.

2.1.5 Radiators

Radiators are a simple way to provide heating to a space. These systems are often connected to steam boilers. The boilers are gas fired and create steam that is circulated throughout a building. At each radiator, several tubes that carry the steam loop around inside the radiator. There are very thin fins that are attached to these tubes, which help increase the surface area for heating. The more surface area at the radiator, the more heating it can deliver.

These systems are controlled via a thermostat. Whenever the room falls below the set temperature point of the thermostat, a control valve in the steam piping opens and allows steam to flow through the radiator tubes. There are no fans in radiators. The heat from the steam inside the tubes moves to the fins of the tube and releases thermal energy into the room to provide heating.

2.1.6 Unit Heaters

This is a basic system that is intended to only provide heating to a space. Unit heaters can be either electric, gas, or hydronic (heating hot water). These systems work by using a fan to blow cool room air over a very warm heater section, whether it be an electric heating element, a gas-fired heat exchanger, or a hot water coil. As the air is blown across the hot coil, heat is transferred from the heating section into the air and allows the space to be heated.

These systems are very simple and run off a thermostat that is either located on the heater itself or on the wall somewhere in the room that the heater serves. The thermostat is set to a certain temperature and whenever the temperature in the room falls below the set temperature point, the heater will turn on to provide heating until the set temperature is met.

2.2 Common Reasons for Poor Indoor Air Quality

The following section lists several of the most common deficiencies that were observed in child care facilities that participated in the **Allegheny County Child Care Indoor Air Quality Improvement Pilot**. This is not an exhaustive list of potential facility concerns when it comes to indoor air, but it includes the most common issues plaguing child care facilities.

2.2.1 Inadequate Level of Filtration

Filters in HVAC systems are typically classified based on their minimum efficiency reporting value rating (MERV rating). Essentially, the higher the MERV rating, the smaller the particles are that can be filtered out of the air. The chart below is a good representation of the range of MERV ratings and what each level is capable of filtering:

MERV2	Pollen, large dust particles
MERV5	MERV2 + lint, smaller dust particles
MERV8	All MERV5 + dust mites, pet dander
MERV11	All MERV8 + mold spores, gaseous fumes
MERV13	All MERV11 + smoke, odors, bacteria
MERV17 (HEPA)	All MERV13 + viruses, allergens, smallest particles

HVAC systems are designed to operate under the conditions of specific MERV ratings on the filters. As a rule of thumb, the higher the MERV rating, the higher the filtration level. A higher MERV rating is often accompanied by a drop in system pressure. The fans in HVAC systems are only capable of producing a certain level of static pressure to push the air through the ductwork system. The filter choice is typically factored in when designing an HVAC system.

Filtration in an HVAC system can be a confusing topic. Many people think that the solution is to always purchase the highest-grade filter available. While this sounds like a good idea, it can sometimes create an unexpected burden on the existing HVAC system. The best choice of filter is always the one recommended by the manufacturer for the specific unit.

When choosing a filter for an air handling unit, it is always best to check with the manufacturer for the specific unit in question to determine what MERV rating the system is compatible with.

2.2.2 Dusty Facility

There are many factors that can lead to dust accumulation in a building. The presence of dust in a building leads to the growth and production of dust mites, which are microscopic bugs that live in dust. These mites can cause issues like sneezing, runny noses, wheezing, or even difficulty breathing for those with asthma. It is always in a building owner's best interest to try to limit dust as much as possible.

One factor that can lead to dust accumulation in buildings is the nature of the building. Buildings that are heavily occupied and experience high traffic with doors being opened frequently can accumulate dust faster than buildings that are not heavily occupied. Because dust is mostly pollen, dead skin cells and other particles, when doors are open and people are present, dust is bound to collect.

Another factor leading to higher dust levels is poor airflow in an HVAC system. Whenever airflow is restricted and not moving enough, whether due to the HVAC system being off or a very dirty filter, dust is not able to be collected by the HVAC return ductwork and filtered through the air handling unit.

2.2.3 Inadequate Level of Ventilation Air (Outside Air)

Ventilation air is an important component of indoor air quality. The IMC[vi] and ASHRAE[vii] guidelines exist to ensure that buildings are designed to create an indoor atmosphere that protects the health and well-being of occupants as much as possible. When following IMC or ASHRAE in HVAC design, the designer can be sure the mechanical and/or natural ventilation of the space supports acceptable indoor air quality.

If there is not enough ventilation air being delivered by the HVAC system, occupants can experience discomfort and health issues. Ventilation air helps to dilute carbon dioxide and other airborne contaminants from densely populated buildings. When there is not enough ventilation air in a space, the air in the space can quickly start to feel stagnant, producing discomfort for occupants and posing health concerns, especially for young children.

2.2.4 Infrequent Filter Changes

Every filter has a manufacturer recommended life span ranging anywhere from 1 month to 1 year depending on the size and type of filter. These recommendations for filter replacement should be followed as a minimum, but in child care facilities, it is recommended to replace

filters even sooner. As filters load with dust and other particles, they can severely restrict airflow through the system. As noted in the "Dusty Facility" section above, restricted airflow means more dust accumulation and all the associated issues. Having a clogged air filter can also make the system work harder and operate less efficiently, resulting in higher energy bills. **The investment in a new filter is in many cases cheaper than higher energy bills or paying for a new system if it fails from working too hard**.

2.3 Possible Solutions

2.3.1 Bipolar Ionization

A bi-polar ionization device helps to create an overall cleaner space by reducing the contaminants in the air. The ionization device is typically installed with a simple magnet right onto the blower fan of the HVAC system. The device applies a voltage to electrodes in the air, creating an electric field. As air passes through the electric field, some particles will gain or lose electrons and become ions, allowing them to bond more easily to contaminants in the air. When ions bond to the air contaminants, the particles become larger and are more easily removed through air filtration.

Many infections are carried through very small particles. The bi-polar ionization device essentially causes very small particles to become larger and be able to be removed more easily by lower levels of filtration. When comparing systems with only MERV10 filters and systems with MERV10 filters + bi-polar ionization, PM 1.0 (particles less than 1 micron in diameter) are removed 1.5 times faster in systems that utilize both MERV10 filters and bi-polar ionization.

The work required to install these devices is minimal and can be done quickly. The system would need to be shut down and the device installed by a contractor. The electrical scope involved is also minimal. These systems can either be connected to an existing 120V circuit or they can be tied into the existing controls circuit of the HVAC unit. See Appendix A for bipolar ionization installation diagrams. These devices use very minimal power.

Looking for a HVAC contractor? We encourage you to consider diverse businesses via The Pennsylvania Unified Certified Program (www.paucp.com) for DBEs and the Pennsylvania Department of General Services (PADGS) Diverse Business Program (Minority, Women, Service-Disabled, LGBT, and Disability-Owned Business Enterprises) via https://www.dgs.internet.state.pa.us/suppliersearch.

When choosing to install a bi-polar ionization device, child care facilities should follow Environment Protection Agency (EPA) and Center for Disease Control (CDC) recommendations to use devices that meet UL 2998 standard certification (the Environmental Claim Validation Procedure for Zero Ozone Emissions from Air Cleaners).

2.3.2 Increase Filter Replacement Schedule

As mentioned in Section 2.2 – Common Reasons for Poor Indoor Air Quality, infrequent filter changes can lead to problems with the HVAC system and with indoor air quality. The lifespan of each individual filter varies from manufacturer to manufacturer and with varying MERV ratings. It is always best to consult the manufacturer for the recommended lifespan of the filters. At minimum, HVAC filters should be replaced based on the manufacturer's recommendation. For a child care facility, the filters should be replaced even more frequently due to the increased occupancy and activity.

In child care facilities, filters should be replaced ONE MONTH PRIOR to the manufacturer's recommended lifespan to ensure proper airflow in the system and adequate levels of filtration. See Appendix B for an example filter replacement tracker.

2.3.3 Test and Adjust Ventilation (Outside) Air Levels

Ensuring your facility is bringing in an adequate volume of fresh ventilation air can help dilute pollutants and reduce the chance of infections. Doing so involves hiring as an environmental monitoring specialist certified as a balancer to potentially adjust the position of ventilation dampers on air handling units to bring in more fresh outside air.

This solution is a two-step process and potentially requires multiple site visits by the environmental monitoring specialist. The current level of ventilation air at each RTU is measured and a ventilation calculation is performed to determine the minimum amount of ventilation air required in the child care facility. The specialist compares the current levels of ventilation air and the required amount of ventilation air to determine if there is adequate amount of ventilation air in the system. If it is deemed that more ventilation air is

When hiring an HVAC or environmental monitoring specialist to conduct test and balancing for your facility, it is recommended that the specialist is certified by The Testing, Adjusting, and Balancing Bureau (TABB)—the only certification program accredited by the American National Standards Institute (ANAB).[viii]

required, the environmental monitoring specialist would return to the site to increase the amount of ventilation air at each RTU by adjusting the outside air damper on the HVAC unit.

2.3.4 HVAC Air Duct Cleaning

As HVAC systems run, they accumulate dust and other debris. This happens because the fan in an HVAC system creates negative pressure and causes air and dust particles from the space to be drawn through the return ductwork of the system. Once the air is back in the air handler, it goes through a filter and then is either heated or cooled and delivered back to the space. As mentioned in "Inadequate Levels of Filtration", using the right filter in the HVAC system is important— if a filter used is too small and does not cover the entire return duct opening, dirt and other particles can bypass the filter, causing the ductwork and components to become unusually dirty. **Even with a properly sized filter, ducts can still become dirty after years of use and as the filter loads.** The accumulation of dust and debris can create added stress on the HVAC system, restrict airflow, and lead to air quality issues.

Air duct cleaning is a simple solution to dusty ductwork. Duct cleaning technicians use special tools to dislodge any dirt, debris, or other foreign particles that accumulate inside of an HVAC system. Once everything has been dislodged and loosened, a high-powered vacuum is used to create suction and pull all the loosened dirt and debris out of the ductwork and the HVAC equipment.

We recommend requesting the air duct cleaning technician provide you with before and after photos of your facility's ductwork.

2.3.5 Standalone Filtration Units

A HEPA filtered recirculation unit improves the level of filtration in a facility. These units utilize a MERV8 pre-filter to capture larger particles and a HEPA filter to capture very small particles.

These types of units can either be installed in a drop ceiling space or they can be plugged into an existing wall outlet and sit on the floor in the space that they are serving.

For ceiling installation applications, the air inlet of the unit is a grille that is flush to the ceiling, and the outlet is ducted to a diffuser in the space that the unit serves, preferably at least 8' from the air inlet. Air from the room is drawn into the unit through the air inlet grille, filtered, then recirculated to the space. The unit is equipped with eyebolts for hanging on the existing structure.

For the ceiling installation applications, a contractor would install one supply air diffuser in the drop ceiling for every one filtration unit along with the associated ductwork to connect the diffuser to the filtration unit. A contractor would also need to provide one new 115V circuit to power the units. A maximum of three units can be on a single 115V circuit with a 20A breaker. These units can each be connected to their own simple 24-hour dial timer switch that allows a user to set a certain number of hours the unit will run, or they can be pre-programmed based on manufacturer's recommendations to maintain constant airflow.

For floor installation, the unit can simply be plugged into an existing wall outlet. Cover should be provided to conceal the power cord to prevent tampering. See Appendix C for HEPA filtered recirculation unit diagrams.

A recirculation unit of this nature will allow for an increase in air change rates within spaces in the facility. **These units function independently from the existing HVAC systems, so they can easily be retrofitted into the existing spaces without disrupting the current HVAC systems.**

3 Policies and Practices to Improve Indoor Air Quality

There are various policies and practices you can implement in your child care facility to help improve the indoor air quality. These changes can be made regardless of the type of ventilation system the facility is equipped with and should be of minimal financial burden. They are meant to be simple practices or policies that can be taught to staff and built into overall operating procedures.

All the policies and practices recommended here aim to support child care centers in meeting the health and safety requirements mandated in the Pa. Code child care regulations and recommended in Keystone STARS Performance Standards.

55 Pa. Code § 3270.21. General health and safety. Conditions at the facility may not pose a threat to the health or safety of the children.

Keystone STARS Bonus Point Quality Initiatives for STAR 3 and 4 Programs. Performance Standard Category & Related Quality Initiative: Leadership and Management. Program participates in an organized effort to promote environmental health improvements in their early learning program, making their facility and program healthier and less likely to negatively affect the health of children and early learning program staff. (PA Eco Healthy Child Care).

3.1 Prioritize Outside Air

It is important for children to receive fresh, clean outside air. As mentioned in Section 2, most facilities will have some sort of device for mechanical ventilation, which increases air exchange rates in the facility. The following section outlines options for natural ventilation providers can take to increase the amount of fresh, outside air the program receives, regardless of the type of mechanical ventilation in the facility.

3.1.1 Open Windows

Opening windows in the facility is the quickest and cheapest way to improve your program's ventilation. Opening windows on a regular basis will increase air movement and decrease pollutants in your indoor air. Windows should always be opened during facility cleaning, sanitizing, and disinfecting to ensure proper ventilation of any toxic fumes

released.[viii] If applicable, windows should be open in areas where cooking occurs—using gas and electric stoves, while unavoidable in many programs, releases high levels of particulate matter. Opening windows during use allows for an increase in ventilation, shifting out contaminated air and replacing it with fresh air.[ix]

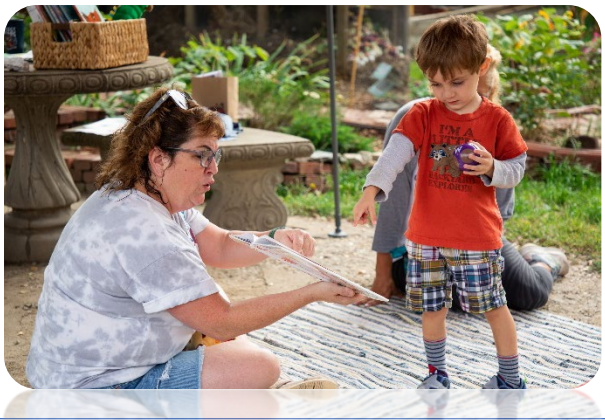
55 Pa. Code § 3270.66. Toxics. (c) Cleaning materials and other toxic materials shall be used in a way that does not contaminate play surfaces, food, food preparation areas, and does not constitute a hazard to the children.

55. Pa. Code § 3270.72. Ventilation. (a) Natural or mechanical ventilation shall be provided in child care spaces. (b) Windows or doors used for ventilation shall be screened when open. (c) Screens shall be in good repair. (d) Windows or doors above the ground floor that open directly to the outdoors and are accessible to children shall be constructed, modified, or adapted to limit the opening to 6 or fewer inches.

3.1.2 Move Activities Outside

When possible, child care programs should move activities outside. Not only does outdoor play promote physical health and exploration for young children, but there is also strong evidence that breathing outside air leads to stronger immune systems and protection against some diseases.[x] Implementing outdoor time, when possible, prioritizes natural ventilation. There are certain activities that should always be done outside due to the number of chemicals they produce in the air. Common art activities such as painting, using fabric dyes, using chalk, and using certain glue types should be scheduled to be done outside, where chemicals released will be diluted and less likely to irritate children's eyes, noses, or lungs. Children should be moved outside when staff are dusting, vacuuming carpets, or disinfecting surfaces.

55 Pa. Code § 3270.114. Outdoor activity. Weather permitting, children shall be taken outdoors daily.



Always check the Outdoor Air Quality Index (AQI) Report for your area before opening windows or taking children outside. You can check the latest AQI Report at Air Quality Index (pa.gov).

3.2 Smokefree Facility

All child care facilities are required by Pennsylvania DHS to comply with no smoking requirements. The following section provides strategies to ensure compliance with a smokefree facility by creating and implementing a Smokefree Policy. This policy should prohibit smoking cigarettes, cigars, and e-cigarettes inside the child care, as well as set behavioral guidelines for staff and families who enter the child care facility.

3.2.1 Negative Effects of Smoking

When a person smokes a cigarette or vapes, they inhale the chemicals in the product—the smoke that is expelled during this process affects the people breathing in the air around them. This is called secondhand smoke or secondhand exposure. **There is no safe level of secondhand smoke**. Any amount of smoke and chemical lingering on a person's clothing, skin, or hair after smoking can be a danger to the children in your care. According to the EPA, even after a person stops smoking the chemicals can remain built up on hard and soft surfaces inside (clothing, walls, couches, etc.) and be released back into the air, in what is known as thirdhand exposure.[xi] When individuals who have recently smoked enter a facility, they bring in toxic chemicals that negatively impact the indoor air quality; these chemicals are also difficult to remove once they are present in a space.

Exposure to the chemicals in smoking products is harmful for everyone, but especially young children. The CDC warns that secondhand smoke exposure in children can lead to respiratory infections, ear infections, asthma attacks, and sudden infant death syndrome (SIDS).[xii] Tobacco products are one of the leading causes of poor indoor air quality, and enforcing a strict Smokefree Policy will go a long way to ensuring the health of all enrolled children.

3.2.2 Recommendations to Implement a Smokefree Facility

It is crucial that child care programs set strong expectations for a smokefree environment. This includes doing the following:

- Post No Smoking signs at all facility entrances.
- Include a smokefree policy in your staff and family handbooks. Have staff review and sign upon starting and have families sign upon enrollment. This policy should include:
  - No smoking inside child care facility or within 20 feet of entrances, windows, or any form of ventilation.

- If employees must smoke, they must wash hands thoroughly before entering the facility and interacting with children.
- If employees must smoke, they must wear other attire over their outfit while smoking and remove it before entering the facility.
- Ensure that the policy expresses consequences should any staff or families break standard practice.

Having a clear Smokefree Policy that is reviewed and acknowledged by all employees and families will help foster compliance. Ensuring a smokefree environment will lower the number of pollutants in the facility, improve indoor air quality, and safeguard the health of all children and adults in the child care program. A sample No Smoking Sign and Smokefree Policy are included in the appendix.

55 Pa. Code § 3270.68. Smoking.
(a) Cigarettes, pipes, or cigars may not be smoked in a child care space, a play space or a food preparation area when children are in care or when food is being prepared. (b) Ashes and cigarettes or cigar butts are prohibited in a child care space, a play space or a food preparation areas. (c) At the time of a child's enrollment, the operator shall inform the parent of the smoking policy at the facility.

If you or your staff need help quitting, resources are available at:

- www.smokefree.gov
- https://pa.quitlogix.org

3.3 Day to Day Operations

It is important to be aware of the kinds of seemingly small day-to-day decisions that can negatively affect indoor air quality. Listed below are a few potential pollutants to be aware of and ways to avoid them or limit their negative effect.

3.3.1 Cleaning of Facility

Child care facilities need to be cleaned, sanitized, and disinfected on a routine basis. Try to reduce the amount of time children are present while you clean, as some cleaning products can trigger asthma.[xiii] If the outdoor air quality is good, open windows while

cleaning. If possible, use a vacuum with a HEPA filter so small particulate matter is trapped. Always wear gloves when handling cleaning products. See Appendix F for a model cleaning, sanitizing, and disinfecting schedule.

55 Pa. Code § 3270.66. Toxics. (c) Cleaning materials and other toxic materials shall be used in a way that does not contaminate play surfaces, food, food preparation areas, and does not constitute a hazard to the children.

3.3.2 Cleaning Supplies

Certain cleaning products contain harmful chemicals that can negatively impact a facility's indoor air quality and cause health issues for children. The CDC recommends using water and soap for cleaning, a weakened bleach solution for sanitizing, and an EPA-registered disinfecting product or diluted bleach solution for disinfecting.[xiv] Store all cleaning supplies out of reach of children. Do not to sanitize or disinfect when children are present.

55 Pa. Code § 3270.66. Toxics. (a) Cleaning materials and other toxic materials shall be kept in an area or container that is locked or made inaccessible to children. (b) Cleaning materials and other toxic materials shall be stored in an original labeled container or in a container that specifies the content. Toxics shall be stored away from food, food preparation areas and child care spaces.

For more information on proper cleaning techniques and supplies to use in early child care and education settings, visit How To Clean and Disinfect Early Care and Education Settings | CDC.

3.3.3 Art and School Supplies

Some art and school supplies are filled with toxins and can release pollutants into the child care facility. Always buy non-toxic art supplies when possible and be sure any items labeled "keep out of reach of children" are not accessible by children in care. Some art supplies, such as adhesives and spray paint, should only be used by adults and outside. Chalk should only be used outside and sparingly, as the dust created during use contains particulate matter that can irritate lungs and trigger asthma symptoms.[xv]

55 Pa. Code § 3270.66. Toxics. (d) Arts and crafts materials shall be nontoxic.

3.3.4 Candles and Air Fresheners

All candles and air fresheners have the potential to negatively impact indoor air quality. Candles create air borne soot, which may contain harmful particulate matter such as lead particles, phthalates, and carbon monoxide.[xvi] Certain types of air fresheners contain potentially hazardous pollutants, such as volatile organic compounds (VOCs), that pollute the facility's indoor air quality and can irritate young children's eyes, noses, and throats. Healthier ways to mitigate poor odors in a facility include: increasing ventilation by opening windows, maintaining the HVAC system, regularly cleaning the facility using regulated products, and using an air purifier with a high MERV rating.[xvii]

3.3.5 Pets

Pets can trigger respiratory symptoms in some children and contribute to the biological containments polluting the air.[xviii] Because of this, it is not recommended to have pets in child care facilities. If pets are present in the facility, regularly clean their cages, toys, and anywhere they play. Ensure that pets are regularly groomed and cleaned and that they are up to date on all medical requirements including vaccinations, health checks, and other care as recommended by your veterinarian. Make all families aware that a pet is present and keep a file of children with asthma or allergies as these symptoms may be exacerbated by the pet.

55 Pa. Code § 3270.118. Pets. (a) A pet or animal present at the facility, indoors or outdoors, shall be in good health and known to be friendly to children. (b) Contact with pets by the children is permitted only when a staff person is physically present. (c) A veterinarian's certificate of current rabies immunization is required for a cat or dog at the facility. The certificate shall be on file when the cat or dog is present.

3.3.6 Mold

Mold can be found anywhere it is moist and is frequently found in kitchens and bathrooms. Adults and children who are allergic to mold may experience irritation and trouble breathing. Mold is often accompanied by a foul, moist odor. If possible, open windows in or near bathrooms to increase ventilation. Do not put carpeting near any places that routinely gets wet, including under a sink or water fountain. Make sure sinks, fountains, and toilets do not leak. Always clean up spills immediately.

3.3.7 Pest Control

Common pests such as cockroaches, mice, and rats are another large contributor to the biological containments polluting a child care's indoor air. Enacting preventative measures will reduce the likelihood that pests will be present in the facility. Always keep food properly stored. Keep trash cans covered and remove trash from inside every day. Break down large cardboard and other recyclables quickly and store in bin away from building. Keep the facility clean. If pests are present, bait and traps are recommended instead of chemical sprays, as they do not add unwanted toxins into the environment.

55 Pa. Code § 3270.67. Sanitation.
(a) Trash shall be removed from the facility at least once per day.
(b) Trash shall be removed for the facility grounds at least once per week.
(c) Evidence of infestation of insects or rodents in the facility is not permitted.

For more information on Integrated Pest Management (IPM) in child care facilities visit: Integrated Pest Management for Child Care Programs

3.3.8 Bus and Car Anti-idling Policy

Diesel exhaust from diesel engines, commonly used in school buses, contains more than 40 cancer-casing substances that can pollute the air both outside and inside a child care facility.[xix] Creating, promulgating, and enforcing an anti-idling policy for buses and cars limits the amount of time vehicles can keep their engines on, thus reducing the number of pollutants entering the air.

3.3.9 Cooking

Using a gas or electric stove to cook meals can release carbon monoxide, nitrogen dioxide, and particulate matter into the air. If possible, child care facilities should always open a screened window while cooking to increase ventilation. If the facility's kitchen is equipped with a range hood, turn it on while cooking and attempt to cook on the back burners to increase effectiveness.[1]

[1] California Air Resources Board. (n.d.). Indoor Air Pollution from Cooking. Indoor Air Pollution from Cooking | California Air Resources Board

3.4 Attendance and Illness Policies

Exposure to poor indoor air quality can have detrimental effects on children's learning as well as their health. Illnesses due to health challenges are common when children are consistently exposed to poor indoor air quality and can result in frequent absences. Not only does poor indoor air quality exacerbate health issues such as asthma or allergies, but poor ventilation can increase the transmission rates of respiratory illness. It is important for child care centers to track attendance and illness rates to identify potential issues and solutions and have a strong illness policy in place.

3.4.1 Attendance Tracking

All child care centers should track daily attendance. Keeping up to date and accurate attendance records helps providers understand enrollment versus usage rates, monitor absences, and ensure the health and safety of the children who are present. See Appendix G for a model Enrollment/Attendance/Symptom Record tracking sheet.

3.4.2 Illness Tracking

Child care centers should track the occurrence of all illness in the facility. Logging illness occurrences in classrooms and facility-wide allows for the monitoring of potential health and safety concerns. Child care centers should monitor child illness occurrences through individual symptom sheets and composite illness logs. Monitoring individual symptom sheets can help providers understand individual child and family experiences. Reviewing illness tracking logs can help identify trends in illness and can be used to engage in preventative actions.

See Appendix H for an example individual child Symptom Record sheet. See Appendix G for a model Enrollment/Attendance/Symptom Record tracking sheet.

55 Pa. Code § 3270.182. Content of Records. A child's record must contain the following information: … (7) Reports of accidents, injuries, and illnesses involving a child in care at the facility. The original report shall be given to the parent on the day of the incident. The second copy of the report shall be retained at the facility in an accident file. The third copy of the report shall be retained at the facility in the child's file.

Keystone STARS Performance Standard- Leadership and Management 2.3 Program uses documents for tracking child and staff illnesses and injuries, including plans of action to prevent further occurrences.

3.4.3 Illness Policy & Communication

Child care facilities and families depend on one another to keep all children at the facility healthy and safe, especially when somebody becomes ill. It is important to have a clear illness policy that is broadly communicated and enforced with child care facility's staff and enrolled families. This policy should be understood and followed by all staff members and shared with all families upon enrollment in the family handbook. Having a clear and concise illness policy protects the health of all children enrolled in the program, their families, and staff members. Illness policies allow staff members to take appropriate action based on the circumstance. See Appendix I for a Model Illness Policy.

Any facility's illness policy should include a plan to communicate necessary information with families. If a child becomes ill at the program, the policy should detail steps to contact the child's parents/caregivers as soon as possible. If there is an occurrence of a communicable illness, the policy should include how the provider will notify any impacted families. See Appendix J for a Sample Letter to send to families regarding exposure to communicable disease.

55 Pa. Code § 3270.136. Reporting diseases. (b) The operator shall inform parents of enrolled children when there is a suspected outbreak of a communicable disease or an outbreak of an unusual illness that represents a public health emergency in the opinion of the Department of Health. (c) If a child becomes ill at the facility, the operator shall notify the child's parent as soon as possible.

Keystone STARS Performance Standard- Leadership and Management 2.3 Program uses documents for tracking child and staff illnesses and injuries, including plans of action to prevent further occurrences.

The illness policy should also include steps to be taken if the facility experiences an outbreak of a communicable disease that must be reported to the local health department. Occurrences of the following communicable diseases must be reported to the Pennsylvania Department of Health or your local health authority within 24 hours of detection: Animal bite, Anthrax, Arboviruses, Botulism, Cholera, Diphtheria, Enterohemorrhagic E. coli, Food poisoning outbreak, Haemophilus influenzae invasive disease, Hantavirus pulmonary syndrome, Hemorrhagic fever, Lead poisoning, Legionellosis, Measles (rubeola), Meningococcal invasive disease, Plague, Poliomyelitis, Rabies, Smallpox, and Typhoid fever.

55 Pa. Code § 3270.136. Reporting diseases. (d) A facility person who knows of a communicable disease for which 28 Pa. Code Chapter 27 (relating to communicable and noncommunicable diseases) requires reporting, or who knows of a group expression of an illness which may be of public concern, whether or not it is known to be of a communicable nature, shall report it promptly to the appropriate division of the Department of Health as specified in Chapter 27, or to a local department of health.

28 Pa. Code § 27.21a. Reporting of cases by health care practitioners and health care facilities. (c) A school nurse shall report to the LMRO any unusual increase in the number of absentees among school children. A caregiver at a child care group setting shall report to the LMRO any unusual increase in the number of absentees among children attending the child care group setting.

28 Pa. Code § 27.21a. Reporting of cases by persons other than health care practitioners, health care facilities, veterinarians or laboratories. Except with respect to reporting cancer, AIDS, CD4 T-lymphocyte counts and percentages, HIV test results or perinatal exposure of a newborn to HIV, HIV viral load results, including detectable and undetectable viral load results, and HIV genotype test results, individuals in charge of the following types of group facilities identifying a disease, infection or condition listed in § 27.21a (relating to reporting of cases by health care practitioners and health care facilities) by symptom, appearance or diagnosis shall make a report within the timeframes required in § 27.21a: (1) Institutions maintaining dormitories and living rooms. (2) Orphanages. (3) Child care group settings.

When implementing a new policy, ensure that everyone involved, including staff, children, and families, are aware of the new policy and rationale for adopting it. Policies are successfully implemented and sustained when buy-in from all impacted parties is high. Ensure that you review the expectation for compliance with each policy and keep an open line of communication regarding accountability. Store or post policies in place that is accessible to all impacted so they can review as necessary.

The policies and practices explored in this guide are intended to support center-based child care providers in thinking about their site-specific operations and opportunities for improvement. The recommendations are only useful to child care programs if they are drafted into standard operating policies AND implemented effectively.

Conclusion

Indoor air quality is an important but often overlooked aspect of a healthy environment in center-based child care programs. In 2020, the COVID-19 pandemic brought to light issues of indoor air quality as it relates to virus contamination in all sorts of buildings and programs. Respiratory infections such as RSV, Influenza, and COVID-19, are common consequences of poor indoor air quality, and disproportionally affect children. Buildings that primarily serve young children, such as center-based child cares, are more likely to experience poor indoor air quality.

Allegheny County believes that all of us have a collective commitment to provide children with a healthy environment to play, learn, and grow. This commitment includes ensuring that there is clean, fresh air in child care programs. In 2023, Allegheny County Department of Children Initiatives, Allegheny County Health Department, and Stantec, Inc. came together to better understand common issues of indoor air quality in child care facilities and recommend research-backed improvements. The knowledge gained during the pilot was used to create this guide, in hopes that center-based child care facilities across Pennsylvania would benefit from an indoor air quality assistance guide tailored to their individual experiences. We hope that the knowledge, policies, and practices present in this guide help center-based child care providers in prioritizing indoor air quality in the health and safety practice of their program.

Allegheny County Child Care Indoor Air Quality Improvement Pilot

Thank you to the following child care providers in Allegheny County for participating in the *Indoor Air Quality Improvement Pilot*.

1st Years Day Care Center, LLC

ABK Learning and Development Center

Angel Academy JC

Blessed Assurance Christian Child Care, LLC

Bright and Early Learning and Child Care Center

Bright Futures Child Care Center, LLC

Chatterbox Daycare Center Phase II

Cynthia K. Franck's Child Care (Forest Hills)

Cynthia K. Franck's Child Care II (Verona)

Douglas Academy

Eastminster Child Care Center

Evergreen Montessori

Future Focus Childcare

Heritage 4 Kids Early Learning Center

Homewood-Brushton YWCA

Hug Me Tight Childlife Centers, Inc./ Williams Square Associates

J's Blessing Learning CNTR

Kelly's Kingdom II

Learning to Learn Childcare Center

Little Hearts Learning Center

McCoy's Learning Center

Precious Angels Daycare & Early Learning Center

Precious Peewees Daycare

Providence Connections, INC.

Sarah Heinz House

Small Wonders at the UPMC/Bright Horizons

Splash of Learning Daycare

Taylors Tots Child Development Center

Tender Care Learning Centers (Whitehall)

Tender Care Learning Centers (Jefferson)

The Court Time Foundation, INC.

The Goddard School of Downtown Pittsburgh

The Hartwood Learning Center, INC.

The Learning Loft on Baum

The Presbyterian Day School

TT's Toybox Day Care Center

Yolanda A Davis Family Childcare Home

Reviewers

Thank you to the following entities for contributing to the editing and dissemination of this guide.

Allegheny County Department of Equity and Inclusion (DEI)

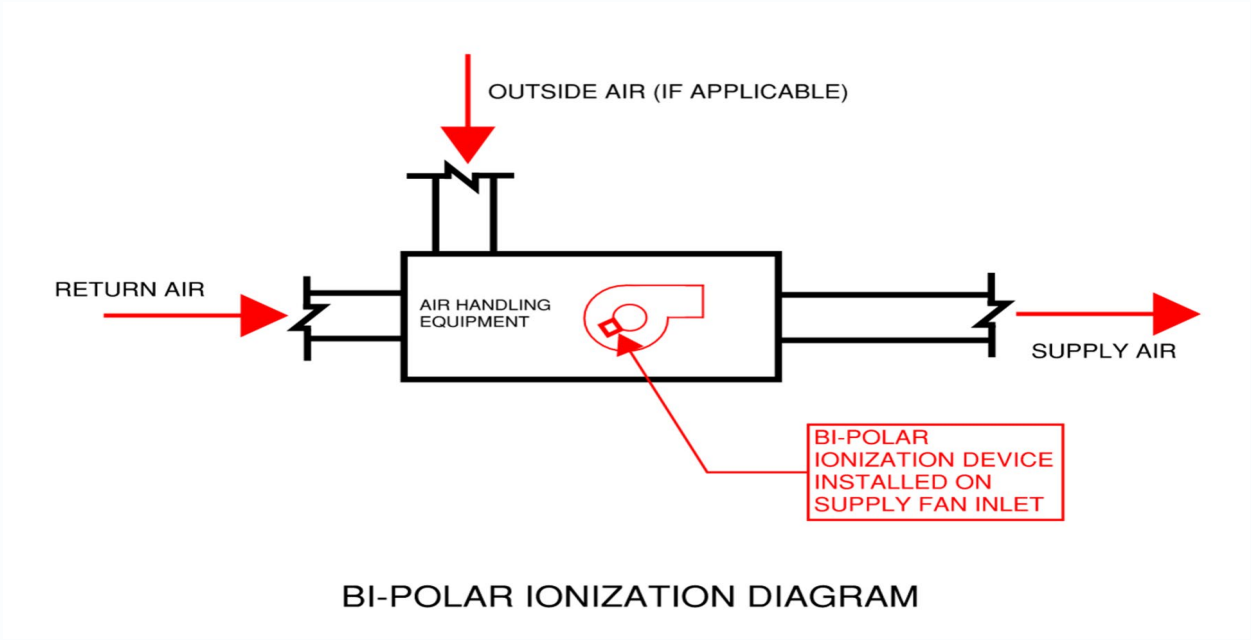
PA Chapter of the American Academy of Pediatrics (PA AAP) Early Childhood Education Linkage System (ECELS)

Commonwealth of Pennsylvania Office of Child Development and Early Learning (OCDEL)

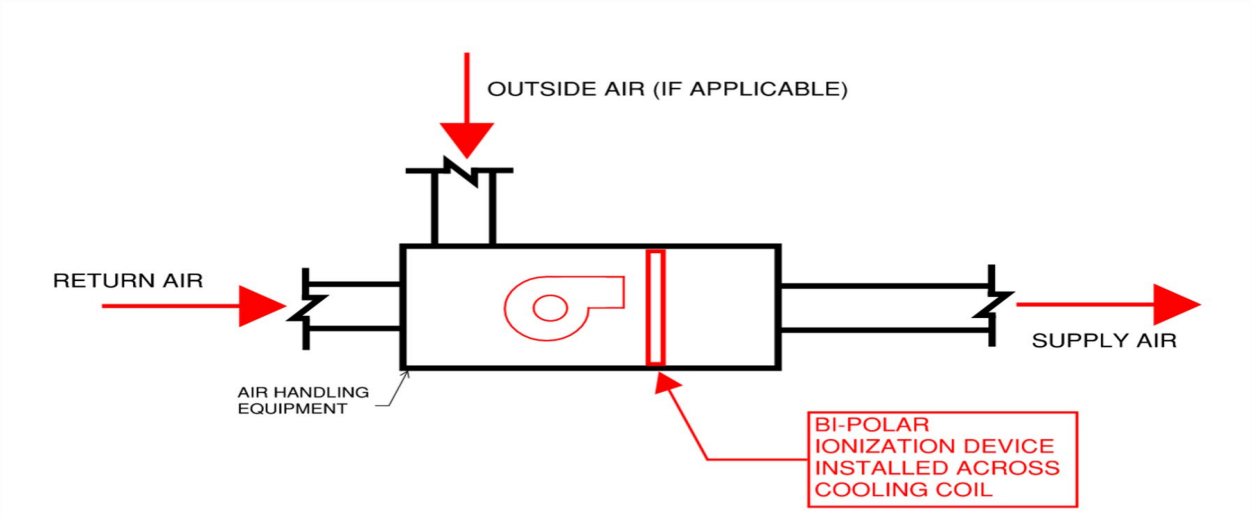
Appendices

A. Bi-Polar Ionization Solutions Diagram

The below diagrams showcase two potential installation methods for a bi-polar ionization device.



BI-POLAR IONIZATION DIAGRAM



BI-POLAR IONIZATION DIAGRAM

B. Filter Replacement Schedule

ALLEGHENY COUNTY
DEPARTMENT OF CHILDREN INITIATIVES

Filter Maintenance Log

Use the highest rated MERV filter that is compatible with your HVAC system.

For child care and high-traffic settings, it is recommended to change air filters one (1) month earlier than the stated replacement cycle.

Filter size and MERV rating: _____

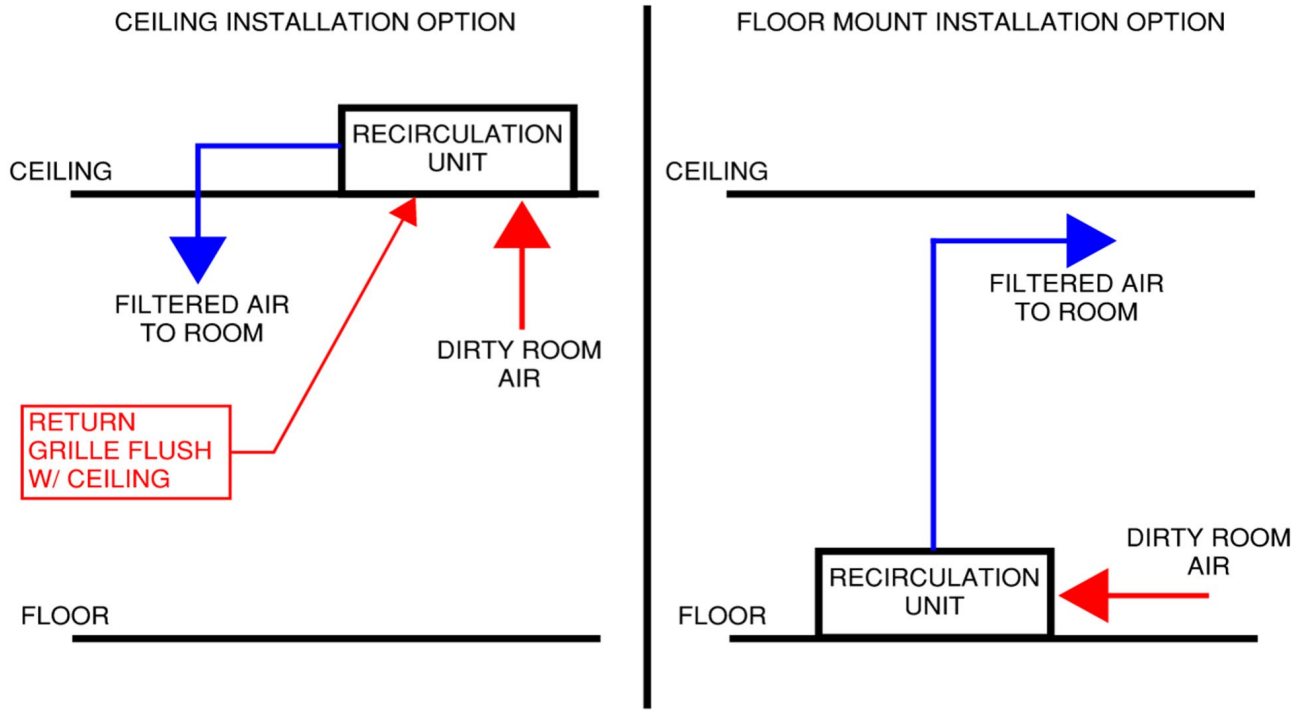
Replace every _____ days.

Month and Year Filter Maintenance Checklist:

01 / 25 ☑	___ / ___ ☐	___ / ___ ☐
___ / ___ ☐	___ / ___ ☐	___ / ___ ☐
___ / ___ ☐	___ / ___ ☐	___ / ___ ☐
___ / ___ ☐	___ / ___ ☐	___ / ___ ☐
___ / ___ ☐	___ / ___ ☐	___ / ___ ☐
___ / ___ ☐	___ / ___ ☐	___ / ___ ☐
___ / ___ ☐	___ / ___ ☐	___ / ___ ☐
___ / ___ ☐	___ / ___ ☐	___ / ___ ☐

C. Standalone Filtration Unit Solutions Diagram

The diagram below shows potential installation methods for both the ceiling and floor standalone filtration units.



FILTERED RECIRCULATION UNIT DIAGRAM

D. No Smoking Sign

E. Smokefree Policy

Sample Smokefree Policy for Pennsylvania Child Care Centers

Purpose/ Belief Statement

We understand that the use of tobacco products on child care premises and in vehicles used to transport children or during any off-premises activities is an environmental hazard and detrimental to the health and safety of children, staff, and visitors.

Background

All child care facilities are required by Pennsylvania DHS to comply with no smoking requirements. Act 27 of 2008, The Clean Indoor Air Act (CIAA), regulates smoking in public places and workplaces across the Commonwealth of Pennsylvania. The CIAA names the Department of Health as the primary Commonwealth agency responsible for implementing the law through education and enforcement of the provisions of the CIAA. Starting September 11, 2008, smoking is not allowed in public places or workplaces.

Application

This policy applies to all children, families, visitors, volunteers, and staff.

Procedures/Practice:

Smoking and the use of tobacco products are prohibited at any time during operating hours:

- on the premises of the child care facility
- on vehicles used to transport children
- during any off-premises activities sponsored by the facility

Communication

The facility will review this policy with parents/guardians, volunteers, and staff in writing and verbally at child care-sponsored or related events. Copies of the policy are in staff and parent handbooks. We may provide materials and information provided by the local health department.

*Staff**

- All current staff members and newly hired staff will review the **Smokefree Policy** before providing care for children.
- Staff will sign an acknowledgement form. The child care facility shall keep the signed **Smokefree Policy staff acknowledgement form** in the staff member's file.

Parents/Guardians

- A copy of the policy will be given and explained to the parents/guardians of newly enrolled children on or before the first day the child receives care at the facility.
- Parents/guardians will sign an acknowledgement form. The child care facility shall keep the signed **Smokefree Policy parent acknowledgement form** in the child's file.

***** *For purposes of this policy, "staff" includes the operator and other administration staff who may be counted in ratio, additional caregivers, substitute providers, and uncompensated providers.*

Enforcement

- Parents and visitors using tobacco products will be asked to refrain while on the child care premises or to leave the premises.
- Consequences for employees who violate the tobacco use policy will be in accordance with personnel policies.

Parent or guardian acknowledgement form

I, the parent or guardian of _____ **(child or children's name)** acknowledge that I have read and received a copy of the facility's Smokefree Policy for Pennsylvania Child Care Centers.

_____ _____

Date policy given/explained to parent/guardian

Date of child's enrollment

_____

Print name of parent/guardian

_____ _____

Signature of parent/guardian

Date

F. MCCHP Routine Schedule for Cleaning, Sanitizing, and Disinfecting

Routine Schedule for Cleaning, Sanitizing, and Disinfecting

Make copies of this guide to use as a checklist on a periodic (eg. monthly) basis to maintain these routines

Areas		Before Each Use	After Each Use	Daily (At the End of the Day)	Weekly	Monthly	Comments
Food Areas	• Food preparation surfaces	Clean, Sanitize	Clean, Sanitize				Use a sanitizer safe for food contact
	• Eating utensils & dishes		Clean, Sanitize				If washing the dishes and utensils by hand, use a sanitizer safe for food contact as the final step in the process; Use of an automated dishwasher will sanitize
	• Tables & highchair trays	Clean, Sanitize	Clean, Sanitize				
	• Countertops		Clean	Clean, Sanitize			Use a sanitizer safe for food contact
	• Food preparation appliances		Clean	Clean, Sanitize			
	• Mixed use tables	Clean, Sanitize					Before serving food
	• Refrigerator					Clean	
Child Care Areas	• Plastic mouthed toys		Clean	Clean, Sanitize			
	• Pacifiers		Clean	Clean, Sanitize			Reserve for use by only one child; Use dishwasher or boil for one minute
	• Hats			Clean			Clean after each use if head lice present
	• Door & cabinet handles			Clean, Disinfect			
	• Floors			Clean			Sweep or vacuum, then damp mop (consider microfiber damp mop to pick up most particles)
	• Machine washable cloth toys				Clean		Launder
	• Dress-up clothes				Clean		Launder
	• Play activity centers				Clean		
	• Drinking Fountains			Clean, Disinfect			

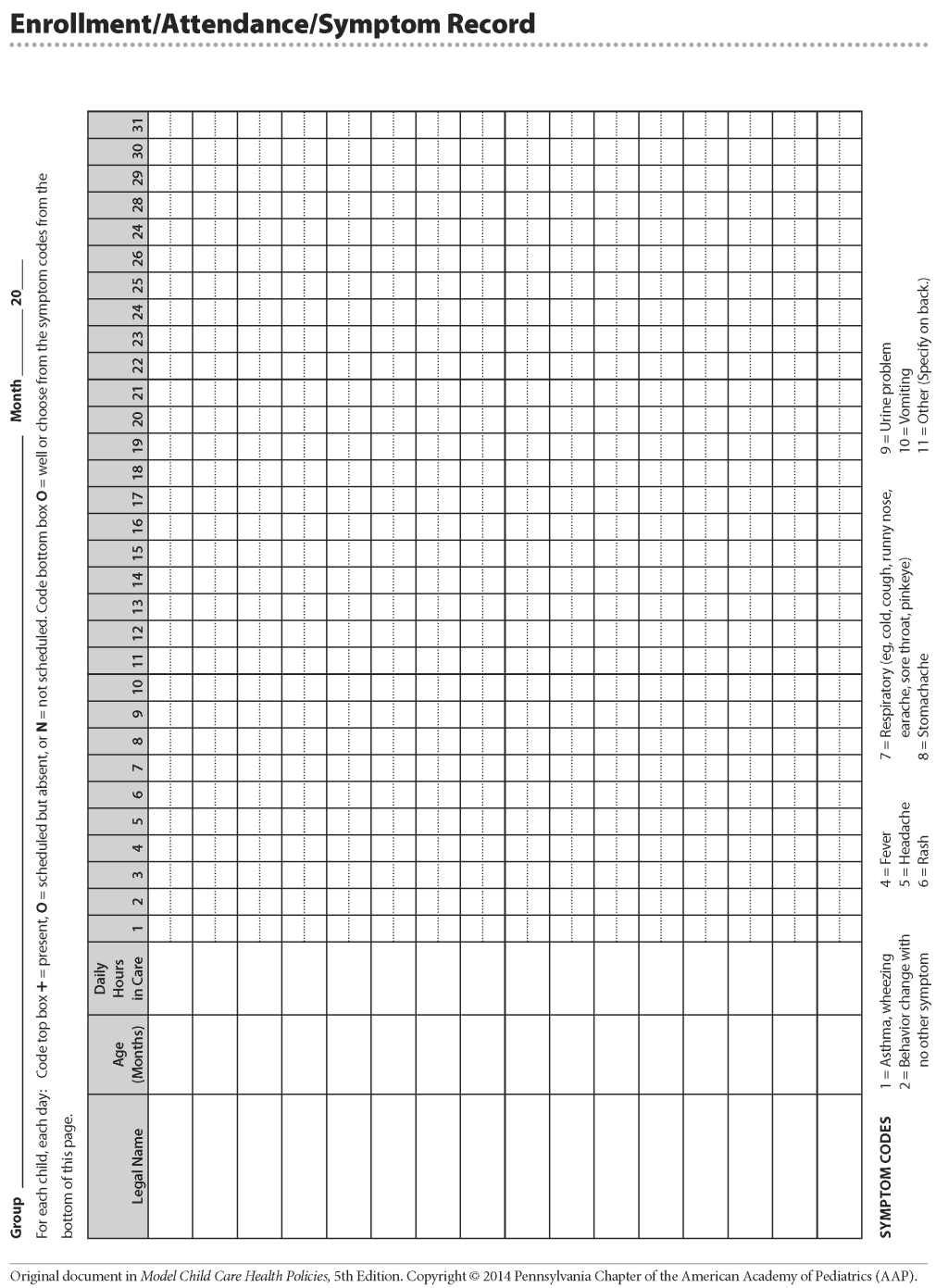
Routine Schedule for Cleaning, Sanitizing, and Disinfecting, *continued*

Areas		Before Each Use	After Each Use	Daily (At the End of the Day)	Weekly	Monthly	Comments
Child Care Areas, *continued*	• Computer keyboards		Clean, Sanitize				Use sanitizing wipes, do not use spray
	• Phone receivers			Clean			
Toilet & Diapering Areas	• Changing tables		Clean, Disinfect				Clean with detergent, rinse,* disinfect
	• Potty chairs		Clean, Disinfect				
	• Handwashing sinks & faucets			Clean, Disinfect			
	• Countertops			Clean, Disinfect			
	• Toilets			Clean, Disinfect			
	• Diaper pails			Clean, Disinfect			
	• Floors			Clean, Disinfect			Damp mop with a floor cleaner/ disinfectant
Sleeping Areas	• Bedsheets & pillowcases				Clean		Clean before use by another child
	• Cribs, cots, & mats				Clean		Clean before use by another child
	• Blankets					Clean	

*The Pennsylvania Chapter of the American Academy of Pediatrics notes that cleaning diaper-changing surfaces with detergent and rinsing with water is necessary only if there is visible soil on the diaper-changing table after removing the disposable paper on which the child was changed. If the surface has no visible soil, the surface doesn't need to be cleaned before disinfecting it.

Adapted from Academy Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education. *Caring for Our Children: National Health and Safety Performance Standards: Guidelines for Early Care and Education Programs.* 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2011:442–443

G. MCCHP Enrollment/Attendance/Symptom Record



Enrollment/Attendance/Symptom Record

Group _____ **Month** _____ **20**__

For each child, each day: Code top box **+** = present, **O** = scheduled but absent, or **N** = not scheduled. Code bottom box **O** = well or choose from the symptom codes from the bottom of this page.

Legal Name	Age (Months)	Daily Hours in Care	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	24	28	29	30	31

SYMPTOM CODES

1 = Asthma, wheezing
2 = Behavior change with no other symptom
3 = Diarrhea
4 = Fever
5 = Headache
6 = Rash
7 = Respiratory (eg, cold, cough, runny nose, earache, sore throat, pinkeye)
8 = Stomachache
9 = Urine problem
10 = Vomiting
11 = Other (Specify on back.)

H. MCCHP Symptom Record

Symptom Record

Name of facility/school: _____

Child's legal name: _____

Date: _____ Symptom(s): _____

When symptom began, how long it lasted, how severe, how often? _____

_____

Any change in child's behavior? _____

_____

Child's temperature: _____ Time taken: _____ (Circle: axillary [armpit], oral, rectal, ear canal, other [specify]) _____

How much and what type of food and fluid did the child take in the past 12 hours? _____

_____

Number of times of urination: _____ and bowel movements: _____

How typical/normal were urine and bowel movements in the past _____ hours? _____

_____

Circle or write in other symptoms:

Cough	Headache	Runny nose	Stomachache	Trouble urinating	Other pain (specify) _____
Diarrhea	Itching	Sore throat	Trouble breathing	Vomiting	_____
Earache	Rash	Stiff neck	Trouble sleeping	Wheezing	_____

Other symptoms: _____

Any medications in the past 12 hours (name, time, dose)? _____

Any exposure to animals, insects, soaps, new foods, or new environments? _____

_____

Exposure to other people who were sick; who and what sickness? _____

_____

Child's other problems that might affect this illness (eg, asthma, allergy, anemia, diabetes, emotional trauma, seizures): _____

_____

What has been done so far? _____

_____

Advice from the child's health care professional: _____

_____

Name of person completing this form: _____

Relationship of person completing this form to the child: _____

I. Sample Illness Policy

Illness Policy for Children and Staff at_____

Guidance Policy for Ill children

Excluding a child or staff who has an infectious disease from child care or school can decrease the spread of illness to others. In the following situations in which a child does *not* have a diagnosed disease/condition, but has signs or symptoms indicative of an infectious disease, exclusion (defined as
keeping a child from attending the child care or school setting) from the child care facility shall be considered

- Child does not feel well enough to participate comfortably in usual activities.
- Child requires more care than the child care or school personnel can provide.
- Child is ill with a potentially contagious illness and exclusion is recommended by the child care health consultant, health care provider, or the state or local public health agency.
- Child has signs or symptoms of a possible severe illness, such as trouble breathing.

When a child or anyone in direct contact with children gets sick, our facility will follow this chart for guidance. If a child is excluded based on symptoms, and not a diagnosed illness, the child should be allowed to return to child care or school as described below and provided that the child can participate in routine activities.

Exclude Sick children or Staff with:	**Readmit Children or Staff when:**
Fever with no symptoms	No fever for at least 24 hours (without using fever-reducing medicine), and no new symptoms.
Fever with productive cough	No fever for at least 24 hours (without using fever-reducing medicine), AND symptoms are improving. Should be evaluated by a healthcare provider.
Worsening respiratory symptoms (Not Allergies)	Respiratory symptoms are getting better overall for at least 24 hours. For the next five days consider masking for individuals 2 years and older, physical distancing, and monitoring symptoms.
Fever with a new rash or behavioral changes.	No fever for at least 24 hours (without using fever-reducing medicine), and any associated rash or behavioral changes have resolved. Should be evaluated by a healthcare provider.
Persistent vomiting	Vomiting has resolved overnight, and the child can hold down food/liquids in the morning.

**Chart referenced from Child care | Department of Health | Commonwealth of Pennsylvania*

Persistent diarrhea	Diarrhea has improved, with no accidents and no more than two bowel movements above what is 'normal' for the child in 24 hours.
Diarrhea that is bloody	Evaluated by a healthcare provider and cleared to return.
Sores that are draining fluid and cannot be covered.	Open sores are crusted over and receiving medical treatment.

Procedures

When a child is sick at our child care or school, we will

- Choose a place to keep sick children or staff separate from others until they can go home.
- Make sure a sick child has adult supervision while waiting to be picked up.
- Ensure that staff caring for sick children use protective gear.
- After touching or caring for the ill child, wash hands using soap and water for at least 20 seconds. Thoroughly dry hands after washing. Use hand sanitizer that contains at least 60% alcohol if soap and water are not available.
- Avoid contact with other children until after washing hands.
- Log the illness in the required illness log. Indicate child's name, assigned classroom or group, date and time of symptoms onset, describe symptoms, actions taken, and date or time child returned to their group setting.
- Clean frequently touched objects and surfaces such as toys, door handles, tables, faucets, and drinking fountains regularly. Disinfect when someone is sick.
- Optimize ventilation systems by repairing, upgrading, and replacing heating, ventilation, and air conditioning (HVAC) systems.

Parent or guardian acknowledgement form

I, the parent or guardian of _____ **(child or children's name)** acknowledge that I have read and received a copy of the facility's Illness Policy.

Date policy given/explained to parent/guardian

Date of child's enrollment

Print name of parent/guardian

Signature of parent/guardian

Date

J. MCCHP Sample Letter to Families about Illness Exposure

Sample Letter to Families About Exposure to Communicable Disease

Name of Child Care Program: _____

Address of Child Care Program: _____

Telephone Number of Child Care Program: _____

Date: _____

Dear Parent or Legal Guardian:

A child in our program has or is suspected of having: _____

Information about this disease

The disease is spread by: _____

The symptoms are: _____

_____

The disease can be prevented by: _____

_____

_____

What the program is doing: _____

What you can do at home: _____

_____

_____

_____

_____

If your child has any symptoms of this disease, call your doctor to find out what to do. Be sure to tell your doctor about this notice. If you do not have a regular doctor to care for your child, contact your local health department for instructions on how to find a doctor or ask other parents for names of their children's doctors. If you have any questions, please contact:

_____ ( )

TEACHER/CAREGIVER'S NAME PHONE NUMBER

Resources

55 Pa. Code Chapter 3270. CHILD CARE CENTERS.
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Pennsylvania Chapter of the American Academy of Pediatrics. Model Child Care Health Policies. Aronson SS, ed. 5th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2014.
www.ecels-healthychildcarepa.org

Environmental Health Network. Eco-Healthy Child Care's Environmental Health Best Practices Checklist.
https://www.hud.gov/sites/dfiles/HH/documents/4_EHCC_Checklist_English_8.5x11-1406.pdf

National Resource Center for Health and Safety in Child Care and Early Education. Caring for Our Children National Health and Safety Performance Standards Guidelines for Early Care and Education Programs. https://nrckids.org/CFOC

Commonwealth of Pennsylvania. Clean Indoor Air Act Guidance. Guidance | Department of Health | Commonwealth of Pennsylvania

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Center for Disease Control (2024, August 29). Protecting Against COVID-19 and Other Infections in Early Care and Education Programs. Protecting Against COVID-19 and Other Infections in Early Care and Education Programs | Early Care and Education Portal | CDC

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