Investing in quality early learning programs is truly a powerful health initiative, not only because of its enduring effects on individual health, but because of its extensive impact on public health and public safety. Early care and education provides the opportunity to address the roots and earliest influences on health behaviors. It has the potential to generate direct, immediate, and lasting benefits.

The interdependence of health and early learning is clear; healthy children learn and children in quality early learning programs enjoy tremendous health benefits. *Early care and education is a crucial investment in our state's financial and public health.*

Brain development that occurs in young children offers an unparalleled opportunity to positively influence their health. The impact of quality early learning settings on individual and public health is compelling evidence to move towards an early childhood comprehensive system that ensures access to quality early care and education experiences, including full day, quality Pre-K for all three and four year olds in New York. The following lays the framework for understanding the value of investments in early care and education as a tremendously effective means to promote health.
Making the Case for Early Care and Education: What We Know

A growing body of rigorous, longitudinal research has produced some key findings linking early education, including prekindergarten, to long-term, positive changes in health behavior:

**Evidence Based Health Behavior Impact of Quality Early Learning Programs**

**High/Scope Perry Preschool Study**
- Less likely to become smokers
- Less likely to engage in risky behaviors
- Less likely to use/abuse illicit drugs
- Less likely to engage in violent behavior
- More likely to be employed and earn higher wages
- More likely to wear seat belts

**Chicago Child-Parent Centers Study**
- Lower rates of child maltreatment
- Lower rates of depression
- More likely to have health insurance
- Lower rates of teen pregnancy
- Lower rates of felony arrests and incarceration

**The Abecedarian Study**
- Lower rates of cigarette smoking
- Lower rates of teen pregnancy
- Lower rates of marijuana use

**Brookline Early Education Project**
- More likely to have health insurance
- More likely to have a regular source of health care
- More likely to visit a doctor or dentist annually
- More likely to report a health rating of good or excellent
- Lower rates of depression

In addition to these evidence-based, long-term outcomes of quality early learning experiences, high-quality early care and education programs offer opportunities to provide young children and families with preventive health screenings, timely and appropriate referrals to medical homes and services that promote health, parent coaching and parent-child centered health promotion interventions that address specific health behaviors. There is also limitless potential to implement focused education programs that target specific health outcomes such as obesity at a very young age. Early learning settings may be some of the most effective and most important venues through which our nation’s health is transformed.1
The Health Impact of Quality Early Learning Programs

There are many clear, evidence-based health outcomes that are positively impacted by high-quality early learning programs. Our literature review and supported conclusions lay the framework for an initial understanding of the magnitude of the health benefits that are realized by investments in quality early learning programs.

By exploring the health impact of documented behavior changes that result from quality Pre-K programs, we begin to reveal the far-reaching, preventive and cost efficient public health outcomes of investments in quality early learning programs.

Smoking

Children who participate in high-quality early care and education programs are less likely to become smokers\(^2,3\). By reducing the number of individuals who smoke, we can expect a precipitous drop in diseases, deaths, and other health consequences directly linked to smoking.

According to the 2004 Surgeon General’s Report—The Health Consequences of Smoking, the following diseases can be directly linked to smoking\(^4\):

<table>
<thead>
<tr>
<th>Disease</th>
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<tbody>
<tr>
<td>Bladder cancer</td>
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<tr>
<td>Cervical cancer</td>
</tr>
<tr>
<td>Esophageal cancer</td>
</tr>
<tr>
<td>Kidney cancer</td>
</tr>
<tr>
<td>Laryngeal cancer</td>
</tr>
<tr>
<td>Leukemia</td>
</tr>
<tr>
<td>Pneumonia</td>
</tr>
<tr>
<td>Lung cancer</td>
</tr>
<tr>
<td>Oral cancer</td>
</tr>
<tr>
<td>Pancreatic cancer</td>
</tr>
<tr>
<td>Stomach cancer</td>
</tr>
<tr>
<td>Abdominal aortic aneurysm</td>
</tr>
<tr>
<td>Atherosclerosis</td>
</tr>
<tr>
<td>Cerebrovascular disease (stroke)</td>
</tr>
<tr>
<td>Coronary heart disease</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>Low bone density</td>
</tr>
<tr>
<td>Fetal death and stillbirth</td>
</tr>
<tr>
<td>Reduced fertility (in women)</td>
</tr>
<tr>
<td>Low birth weight</td>
</tr>
<tr>
<td>Cataracts</td>
</tr>
</tbody>
</table>

The opportunity to prevent smoking by teaching children long-lasting healthy behaviors in early childhood is a proactive approach towards decreasing some of our nation’s most prevalent public health costs and concerns such as cardiovascular disease. This early intervention embodies exactly the kinds of public health principles that will have dramatic impacts on the health of the next generation.

Nutrition/Physical Fitness

Children who participate in high-quality early care and education programs are more likely to eat balanced, nutritional diets and lead physically active lives as adults\(^5,6,7\). By positively influencing diet and levels of physical activity, we can expect an overall reduction in diseases, deaths, and other health consequences directly linked to poor nutrition and low levels of physical activity, including obesity and diabetes.

According to the U.S. Centers for Disease Control and Prevention, the following conditions can be attributed to poor diet and physical inactivity\(^8\):

<table>
<thead>
<tr>
<th>Condition</th>
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<tbody>
<tr>
<td>Obesity</td>
</tr>
<tr>
<td>Hypertension (high blood pressure)</td>
</tr>
<tr>
<td>Osteoarthritis</td>
</tr>
<tr>
<td>Dyslipidemia (high cholesterol)</td>
</tr>
<tr>
<td>Type 2 diabetes</td>
</tr>
<tr>
<td>Coronary heart disease</td>
</tr>
<tr>
<td>Stroke</td>
</tr>
<tr>
<td>Gallbladder disease</td>
</tr>
<tr>
<td>Sleep apnea and respiratory problems</td>
</tr>
<tr>
<td>Some cancers (endometrial, breast, and colon)</td>
</tr>
<tr>
<td>Depression and anxiety disorders</td>
</tr>
</tbody>
</table>

The magnitude of the obesity problem is growing. It calls for a holistic, preventive approach. The opportunity to alter behaviors at a young age through early learning venues is a far wiser approach than investing in costly treatment.

The opportunity to alter behaviors at a young age through early learning venues is a far wiser approach than investing in costly treatment.
Alcohol/Drug Use

Children who participate in high-quality early care and education programs are less likely to abuse alcohol or use illicit drugs. By reducing the number of individuals who abuse alcohol and/or illicit drugs, we can expect a decrease in the number of diseases, deaths, and public safety incidences directly linked to alcohol and other drugs⁷.

The use of illicit drugs and alcohol abuse both have a profoundly negative impact on physical and mental health status¹⁰,¹¹. The following health consequences are associated with the abuse of alcohol and illicit drug use:

- HIV, hepatitis and other infectious diseases
- Cardiovascular disease
- Respiratory illness (including pneumonia)
- Kidney damage
- Liver damage
- Neurological damage
- Mental illness/depression
- Cancer
- Violence and homicide
- Accidental injury
- Accidental overdose/acute alcohol poisoning
- Suicide

The far reaching public health impact that reductions in alcohol and drug realized by quality early learning programs is profound. The idea that early learning lays the ground for future health habits and life choices is illustrated by the capacity of quality early learning settings to reduce future substance use.

Mental Health

Children who participate in high-quality early care and education programs are less likely to experience depression and symptoms of depression. By reducing the number of individuals who experience depression and symptoms of depression, we can expect an overall reduction in the number of injuries and fatalities linked to suicide and incidences of depression comorbidity¹²,¹³,¹⁴,¹⁵,¹⁶.

Depression and depressive symptoms can give rise to a broad range of physical and social consequences. Further, the spectrum of possible health consequences can span the seemingly benign to disabling or fatal. The following health consequences are associated with depression:

- Suicide
- Substance abuse
- Eating disorders
- Sleep disorders
- Heart disease
- High blood pressure
- Cancer
- Type 2 diabetes
- Disability

Childhood and adult mental health problems are a major public health concern. An estimate 10 to 20 percent of young children experience significant mental health problems and only one third of these children receive help¹⁷. Many children go undiagnosed and untreated which starts them on a trajectory of school failure with its profound consequences. Early intervention services and mental health consultations and referrals play an important role in identifying and evaluating social-emotional challenges in young children. These efforts are critical to children entering school healthy and ready to learn. Quality early learning programs offer a promising and proven venue to identify mental health concerns and address them early.

Participation in quality pre-kindergarten has a documented impact on nine out of ten leading health indicators, as defined by Healthy People 2010:

- Physical activity
- Substance abuse
- Injury and violence
- Overweight and obesity
- Responsible sexual behavior
- Immunization
- Tobacco use
- Mental health
- Access to health care

* No evidence linking participation in early care and education to changes in environmental quality have been documented.
Seat Belt Use

Children who participate in high-quality early care and education programs are more likely to use safety belts\(^{18}\). By reducing the number of drivers and passengers who consistently use safety belts, we can expect an overall reduction in the number of injuries and fatalities linked to motor vehicle accidents\(^{11}\).

The health consequences of motor vehicle crashes can be both physical and psychological in nature with potentially lifelong implications for victims. They include:

- Spinal cord injury (quadriplegia and paraplegia)
- Traumatic brain injury
- Facial trauma
- Blunt chest trauma
- Chronic pain
- Post traumatic stress disorder
- Depression
- Death

The complex processes that contribute to health and safety promoting choices like seatbelt use, and the influence that quality early learning programs has on such behaviors and resulting health outcomes is illustrative of the dynamic early brain development and the compelling opportunity it presents to have a profound, positive impact on morbidity and mortality.

Abuse/Violence

Children who participate in high-quality early care and education programs experience immediate and long-term protection from acts of physical abuse. By using proven methods of parent education and interventions, quality early learning programs can substantially reduce the incidence of child abuse\(^{20}\). Quality early learning settings also offer an added and early venue where warning signs for abuse and signs of abuse can be swiftly recognized, reported and addressed. By reducing the number of individuals who are likely to engage in acts of abuse or violent behavior, we can expect a decrease in the overall number of injuries and fatalities attributable to abuse.

According to the U.S. Department of Health and Human Services’ Administration for Children and Families, the following health consequences are associated with abuse, neglect, and maltreatment\(^{21}\):

- Lifelong poor physical health
- Depression and anxiety
- Trauma
- Disability
- Low self-esteem
- Eating disorders
- Suicide attempts
- Delinquency and criminal activity
- Teen pregnancy
- Illicit drug use
- Low academic achievement
- Involvement in violent crime
- Abusive behavior

The ability of quality early learning programs to prevent some of societies most devastating and disturbing problems such as child abuse is illustrative of the opportunities for screening, education, intervention and long term behavior changes that quality programs offer.

High-risk Sexual Behavior

Children who participate in high-quality early care and education programs are less likely to engage in high-risk sexual behaviors. Teen pregnancy can have negative health implications for both the mother and her child\(^{22}\). By helping teens avoid or reduce high-risk sexual activity (by either delaying sex or by using contraception), we can prevent teen pregnancy and sexually transmitted diseases (STDs) including HIV/AIDS. Early care and education can reduce the number of unplanned pregnancies, teen pregnancies, and non-marital births.

Evidence suggests that babies born to teen mothers are at increased risk for specific health problems compared to babies born to older mothers\(^{23}\). The children of teen mothers are more likely to be born prematurely and at low birthweight compared to children of older mothers, which raises the probability of:

- Infant death
- Mental illness
- Blindness
- Cerebral palsy
- Deafness
- Dyslexia
- Chronic respiratory problems
- Hyperactivity
- Mental retardation

Reducing teen pregnancy can improve the health of teens, their future children, and reduce the costs of public health services\(^{24}\). Early care and education can reduce the number of unplanned pregnancies, teen pregnancies, and non-marital births.

Employment/Health Insurance

Children who participate in high-quality early care and education programs are more likely to have consistent employment and health insurance\(^ {25, 26}\). Early care and education can increase the number of individuals with access to health insurance and essential preventive health care, thereby limiting the number of individuals affected by breast, cervical, and colorectal cancers, heart disease, and type 2 diabetes.
In addition to fostering positive future health behaviors and facilitating lasting positive health outcomes, early care and education programs are an ideal setting to realize immediate health benefits.

By offering a variety of family, teacher and child education programs, health screenings, referrals, collaborations with medical home settings and services to children enrolled in early care and education programs, we have the opportunity to make an even greater impact on the overall health status of the citizens of New York State.

By uniting the early learning and public health communities to develop focused initiatives that target key health behaviors, we can expect a future of even greater health outcomes attributed to quality early care and education. There are already examples of successful initiatives and, with greater investments and focused research, we can provide all children with the best prospects for physical, emotional, intellectual and social health.

**Immediate Health Benefits**

Examples of immediate health benefits of early care and education:
- Conducting health and developmental screenings
- Securing medical home routine preventive services by monitoring health forms (immunizations, anemia and lead screening, developmental surveillance)
- Offering mental health consultations
- Engaging in parent coaching
- Providing timely and appropriate referrals
- Linking to health insurance, nutritional supports, financial supports
- Providing limitless health education opportunities for children and their families

**Conclusion**

Quality early learning programs promote current and future health and well being yielding dramatic improvements in public health. By understanding the opportunities for early interventions in laying the groundwork for future health that exist in early learning settings, we can make sound, cost-effective and proactive investments in the health and well being of our children. Such investments may well represent the most promising opportunities to address our most prevalent public health concerns. Indeed, by investing in quality early learning programs now, we will be setting children on a path of life success that includes health and avoiding the high personal and societal costs of treating morbidities and mortalities later.

By investing in quality early learning programs now, we will be setting children on a path of life success that includes health and avoiding the high personal and societal costs of treating morbidities and mortalities later.
Policy Recommendations for New York

Ensure Quality Full Day Pre-K Programs available to all 3 and 4 year olds: Research supports that quality, full-day programs lead to enhanced opportunities for young children and an increased capacity to realize the benefits of early learning investments. It is through expanding access to full-day, quality Pre-K programs to all 3 and 4 year olds in New York that public health outcomes can be most effectively realized.

Expand standards and investments in health promotion and prevention opportunities within early learning settings to support child health and well-being. Healthy children learn best and quality early learning settings offer fertile ground for myriad opportunities to positively impact health in both the short- and long-term. This expansion and investment should include mental health consultation, developmental and other screenings, health advisory committees, expansions of health consultant funding and roles, health education programs (including health literacy) and a developed referral process. Best practices in collaborations between health and education should be identified and disseminated.

Create a Quality Rating and Improvement System (QRIS) as the new framework for excellence in early childhood programs and a vehicle to drive strategic investments in early education and care. The new QRIS system will establish standards of program excellence, serve as a consumer/parent education tool and create a system for prioritizing and deploying resources in a way that assures quality, promotes best practices, and develops and supports a qualified workforce. Once established, New York should strategically invest in helping programs meet QRIS measures. The state should dedicate investments and make technical assistance available, in order to implement and support efforts that ensure all children have access to high-quality early care and education programs that enable them to form a love for learning and a foundation for later achievement in life.

Launch the Excellence in Early Childhood Workforce Initiative to invest in workforce development as the state works to create the longer-term policy directions to support and expand the qualified workforce. New investments should target loan forgiveness, scholarship, mentoring and reward bonuses, equitable compensation, and professional pathways to facilitate provider regulation.
References

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23 Ibid

Investing in Early Care and Education is a Powerful Public Health Initiative for New York’s Children is a research brief developed by Docs for Tots. Docs for Tots is a nonpartisan, advocacy organization formed to encourage more doctors to fulfill their important role as active advocates for infants, toddlers, and preschoolers on the national, state and local level. Available online at www.DocsForTots.org.