



**NURTURING CARE**  
FOR EARLY CHILDHOOD DEVELOPMENT

# Tobacco control to improve child health and development



## Why is protecting children from tobacco important?

Tobacco poses risks to children's survival, health and development. Protecting children from tobacco smoke is essential to help them to survive and thrive.

Children exposed to tobacco smoke are at an increased risk of a range of diseases and are more likely to take up smoking themselves. Enabling children to grow up free from the dangers of tobacco exposure is a key aspect of providing clean, safe and secure environments. Providing such environments is central to achieving Sustainable Development Goal 3 on good health and wellbeing. It is also essential for nurturing care.

The World Health Organization (WHO) has set out a package of proven effective measures, together called MPOWER (1), to reduce tobacco use and second-hand smoke exposure (see Box 1). Many of these tobacco control policies have been shown to reduce children's exposure to second-hand smoke and therefore to improve birth outcomes and children's health and development.

## What is nurturing care?

What happens during early childhood (pregnancy to age 8) lays the foundation for a lifetime. We have made great strides in improving child survival, but we also need to create the conditions to help children thrive as they grow and develop. This requires providing children with nurturing care, especially in the earliest years (pregnancy to age 3).

Nurturing care comprises five interrelated and indivisible components: good health, adequate nutrition, safety and security, responsive caregiving and opportunities for early learning. Nurturing care protects children from the worst effects of adversity and produces lifelong and intergenerational benefits for health, productivity and social cohesion.

Nurturing care happens when we maximize every interaction with a child. Every moment, small or large, structured or unstructured, is an opportunity to ensure children are healthy, receive nutritious food, are safe and learning about themselves, others and their world. What we do matters, but how we do it matters more.

This brief summarizes the health risks that tobacco poses to children, particularly to infants and young children, and the strong protective effect of tobacco control measures. The aim is to raise awareness among practitioners and policy-makers about the importance of strong tobacco control measures for protecting the health and development of children. The brief gives examples of actions needed to advance tobacco control in countries and local settings and to align child health and tobacco control goals.

**BOX 1**

**MPOWER measures**

- M:** monitor tobacco use and prevention policies
- P:** protect people from tobacco smoke (e.g. smoke-free legislation)
- O:** offer help to quit tobacco use
- W:** warn about the dangers of tobacco
- E:** enforce bans on tobacco advertising, promotion and sponsorship
- R:** raise taxes on tobacco



children are particularly vulnerable as they have higher breath rates, and their lungs and bodies are still undergoing development. Although exposure to tobacco in early life is predominantly due to second-hand smoke, some children also actively use tobacco from a young age, with grave consequences for their health and development. Unlike adults, children are unable to regulate their own level of exposure to tobacco smoke, particularly before birth and in early life. In addition, families with smokers are much more likely to experience house fires and related injuries. Children deserve and require clean, safe and secure environments, and clearly these need to be completely smoke-free, even from before birth. Tobacco-related threats to nurturing care are often overlooked. Adult tobacco consumption has a significant cost to families, contributing to hunger and food insecurity for both children and adults in highly industrialized as well as lower-income countries. It also contributes to the grief and life-long consequences of losing a parent to smoking. Even without the death of a parent, many households are impoverished by the cost of smoking diverting spending away from basic household expenses, as well as increasing risks of catastrophic health expenditure (6).

**The evidence**

**Tobacco and early childhood development**

Second-hand smoke, which is formed from the burning of cigarettes and other tobacco products and exhaled by the smoker, kills around 1.2 million people every year; 65 000 of these premature and preventable deaths are in children under 15 years (2).

Tobacco use is also a key driver of early-life inequality. A study in Scotland found that smoking during pregnancy is responsible for about one third of the additional stillbirths and infant deaths among the most deprived households (3). Maternal exposure to second-hand smoke during pregnancy also increases the risk of a baby being stillborn (4).

There are a number of ways tobacco use impacts child health and development. Tobacco smoke includes carcinogenic and other harmful substances, such as formaldehyde, benzene and lead. These substances have been linked to multiple conditions and are especially harmful for unborn and young children (5). Young



**Parental tobacco use and second-hand smoke exposure during pregnancy are linked to adverse fetal development and perinatal outcomes and higher infant mortality.** Exposure of unborn children to maternal smoking or second-hand smoke is linked to birth defects, stillbirths, preterm births and infant deaths. Maternal smoking during pregnancy is linked to a doubling of the risk of sudden infant death and birth defects, while exposure to second-hand smoke during pregnancy is linked to a 23% increased risk of stillbirth and 13% increased risk of congenital malformation (4,7,8). Exposure to second-hand smoke during pregnancy is particularly relevant to many low- and middle-income countries, where few women smoke, but many men do. Even use of smokeless tobacco during pregnancy increases the risk of stillbirth, preterm birth or having a low-birth-weight baby. At least some of these effects, such as on fetal brain development, seem to be linked to nicotine. The negative impact of early-life tobacco smoke exposure also extends to developmental issues and long-term outcomes. Paternal smoking before and during pregnancy has a negative impact on the child's health, causing heightened risk of acute lymphoblastic leukaemia (9) and is associated with higher rates of other cancers. Emerging evidence suggests that smoking during pregnancy can have an impact across generations; for example, grandchildren of women who smoked during pregnancy are at increased risk of asthma.

**Parental smoking in infancy is linked to a range of child health problems, from respiratory disease and infections to sudden infant death.** Newborns and young children who are exposed to tobacco smoke in their immediate environment are at increased risk of asthma, respiratory infections and meningococcal disease, leading to increased mortality (10). For example, exposure of children to second-hand smoke is linked to a doubling of the risks of meningococcal disease and of sudden infant death syndrome (5,11). Children living with smokers are at greater risk for bronchiolitis, pneumonia and other respiratory

infections, are more likely to acquire and be hospitalized for asthma, develop middle-ear disease, and die before their fifth birthday (5,12). Smoking is also a known risk factor for accidental burns and residential fires. Tobacco smoke exposure is associated with becoming overweight or obese during childhood (13), and inflammatory effects leading to metabolic syndrome, dislipidemia, insulin resistance and diabetes, impaired cardiac autonomic function, and premature atherosclerotic heart disease, contributing to premature and preventable adult mortality from noncommunicable diseases (14).

**Childhood and adolescence are periods when behaviours associated with noncommunicable disease risk are adopted, including tobacco use.** Smoking in the home is linked to children being more likely to take up smoking themselves. Children with caregivers who smoke are almost 70% more likely to try smoking by the age of 15 (15). Additionally, children who experiment with smoking earlier are more likely to go on to become smokers as adults.

**Tobacco-related activities have a wide range of negative impacts on child health.** The tobacco industry markets and promotes tobacco and other nicotine containing products and use directly to children and youth, seeking early and lifelong addiction through promotion of false images and messages that hide and distort the true impact of tobacco on health, and through interference with anti-tobacco efforts (16,17). The industry also regularly uses children in the tobacco supply chain, particularly for growing tobacco. This puts children at risk of multiple conditions and diseases including green tobacco sickness, a form of nicotine poisoning, as well as preventing them from attending school (18,19). The global tobacco supply chain has an environmental footprint of greenhouse gas emissions that is almost as much as that of entire countries, such as Peru or Israel (20). This burden falls on those countries least able to cope with it, puts fragile ecosystems at risk and threatens the development of current and future generations around the world.

## What are the nurturing care components?

### GOOD HEALTH



Refers to health and well-being of the children and their caregivers. Why both? We know that the physical and mental health of caregivers can affect their ability to care for the child.

### ADEQUATE NUTRITION



Refers to maternal and child nutrition. Why both? We know that the nutritional status of the mother during pregnancy affects her health and well-being and that of her unborn child. After birth, the mother's nutritional status affects her ability to provide adequate care to her young child.

### SAFETY AND SECURITY



Refers to safe and secure environments for children and their families. Includes physical dangers, emotional stress, environmental risks (e.g. pollution), and access to food and water.

### OPPORTUNITIES FOR EARLY LEARNING



Refers to any opportunity for the infant or child to interact with a person, place, or object in their environment. Recognizes that every interaction (positive or negative) or absence of an interaction is contributing to the child's brain development and laying the foundation for later learning.

### RESPONSIVE CAREGIVING



Refers to the ability of the caregiver to notice, understand, and respond to their child's signals in a timely and appropriate manner. Considered the foundational component because responsive caregivers are better able to support the other four components.

REMEMBER

Comprehensive smoke-free policies are essential for young children to receive nurturing care, and make the best possible start in life.

Evidence from across the globe shows that legislation to make public places smoke-free is associated with important reductions in preterm birth, asthma hospitalizations and hospital visits for severe respiratory tract infections. These benefits are greater when smoke-free policies are comprehensive and adequately enforced, meaning that smoking is prohibited in all areas of indoor public places without exceptions as opposed to partial policies where exceptions are allowed, such as a smoking room in a restaurant. In Brazil, comprehensive legislation banning smoking in all indoor public places substantially reduced infant deaths, but an additional 10 000 infant deaths could have been avoided if the government had implemented comprehensive laws earlier (see Box 2) (27). In addition to laws, mass media campaigns can help increase the number of smoke-free homes and by doing so protect children from severe adverse health outcomes. Figure 1 illustrates the adoption of smoke-free policies in public places in countries.

BOX 2

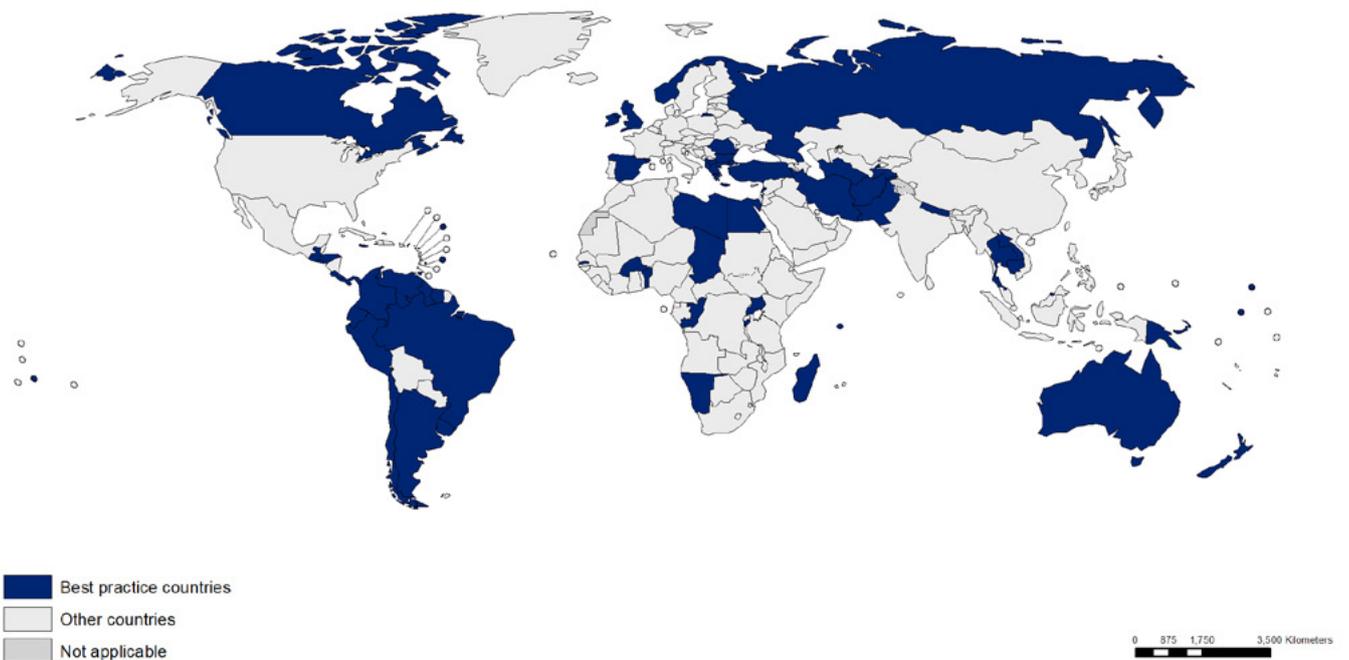
### Comprehensive smoke-free policies

Comprehensive smoke-free policies mean that all indoor public places, all indoor workplaces, all public transport and possibly other (outdoor or quasi-outdoor) public places are free from exposure to tobacco smoke.

The elimination of smoking and tobacco smoke should be absolute in order to create a 100% smoke-free environment. Other approaches, including ventilation, air filtration and the use of designated smoking areas (whether with separate ventilation systems or not) have repeatedly been shown to be ineffective, and conclusive evidence exists that engineering approaches do not protect against exposure to tobacco smoke.

Adoption and implementation of effective legislative, executive, administrative and/or other measures are necessary to protect people from exposure to tobacco smoke, as voluntary smoke-free policies are ineffective and do not provide adequate protection.

Figure 1. Adoption of comprehensive smoke-free policies 2018



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization  
Map Production: Information Evidence and Research (IER)  
World Health Organization



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**Tobacco is a child rights issue.**

International treaties, including the *Convention on the Rights of the Child*, are clear that States should ensure the survival and development of children (22). Tobacco use poses a risk to children’s survival, health and development. As children are dependent on decisions made by adults about their tobacco use, tobacco control policies to inform the public of the dangers of smoking around children are critical. Preventing uptake through MPOWER measures including tax increases, advertising bans, helping smokers quit and ensuring smoke-free environments are requisites for child rights.

**Tobacco control is a cost-effective intervention for child health.** The full range of MPOWER measures protects children of all ages and pregnant women from second-hand smoke, is highly cost-effective and can promote equality. For instance, tobacco taxes and price increases are known to reduce adult smoking prevalence and have potential to decrease tobacco smoking across income groups (23,24). Smoke-free laws benefit child health in countries at all levels of income.

**STRENGTHEN**

**Reduce the prevalence of smoking and save millions of lives through tobacco control policies outlined in the MPOWER package.**

More than five billion people are now covered by at least one national MPOWER measure at the highest recommended level (25), yet only 293 million are covered by all MPOWER measures at this level. Despite global political commitments to tobacco control, reflected in WHO’s widely-adopted *Framework Convention on Tobacco Control* (26) and in the Sustainable Development Goals, much more needs to be done to strengthen the implementation of MPOWER to protect children from the devastating effects of tobacco.

**Enforce smoke-free laws as they have a positive impact on population health, including substantial improvements in child health.** Despite robust evidence, only 62 countries, which are home to 22% of the global population, had implemented comprehensive smoke-free legislation by 2019 (25).

A common misconception is that designated smoking rooms protect people from second-hand smoke; in reality, any exceptions dilute the impact of these laws. Full implementation of smoke-free laws could prevent thousands of preterm births, infant deaths, asthma attacks and severe respiratory infections across the globe. Research in a variety of countries shows that the impact of smoke-free laws is maximized when they are comprehensive and allow no exceptions (27). Prohibiting smoking in public places also promotes norm spreading, resulting in reduced exposure to second-hand smoke at home, a major risk for pregnant women and children of all ages who live with smokers. Governments should be resolute in imposing and enforcing strict measures.

**Raise prices of tobacco products through taxation. This measure drastically reduces the prevalence of smoking.** However, only 14% of the global population lives in countries with tobacco taxes at the levels recommended by WHO (25,27). Even in those settings, the tobacco industry manipulates tobacco prices aiming to maintain availability of cheaper or budget cigarettes so smokers can “trade down” to cheaper products when taxes and prices rise (28). Raising taxes to reduce affordability and minimize the price differences between cheap and premium cigarettes within countries may potentially prevent many thousands of infant deaths every year (23).

**Consider the local context in implementing policies to protect children from tobacco.** A gender gap in smoking exists in many low- and middle-income countries with men much more likely to smoke than women. While comparatively few women in some countries smoke during pregnancy, they and their unborn children are at much higher risk of second-hand smoke exposure compared to high-income settings. Policies such as higher taxation and smoke-free laws have been shown to be effective in countries with different income levels and may actually have a greater impact in low- and middle-income countries where smokers are more price-sensitive and child mortality remains high.

## Include child health and development explicitly in national tobacco control plans and noncommunicable disease plans.

The continued uptake and use of tobacco, particularly by young people, pose major risks to the health of current and future generations. The additional burden on families and health systems hinders economic development, threatens child survival goals and increases inequalities. Policy-makers should maintain constant vigilance about the potential impacts of new and novel products, such as e-cigarettes, which are marketed to children and adolescents but have been shown to cause harm and may lead to the uptake of tobacco products among these groups (29). Protecting the health of children is a strong advocacy point for tobacco control as reducing tobacco use clearly improves child health and development.

**Integrate counselling on the dangers of tobacco in all fertility, antenatal, maternal and child health services.** The impacts of tobacco smoking on the chances of live birth after invitro fertilization are comparable to a ten-year increase in maternal age (30). Quitting tobacco during the first trimester of pregnancy can offset most harms of smoking, including normalising fetal growth and reducing preterm birth risk (31). Women who are pregnant or planning to become pregnant and their partners should have adequate access to free tobacco cessation services, and all front-line health care workers should receive training in tobacco cessation and second-hand smoke exposure reduction. Parents of young children who smoke should be supported by health care professionals to stop and minimize second-hand smoke exposure among their children. Furthermore, family planning and other preconception services, such



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as antenatal care, should integrate guidance on the negative impacts of tobacco on chances of conception as well as its other harmful effects.

### Reach children and young people early through health promotion in schools and school health services.

Smoking habits are commonly adopted early, during late childhood or in adolescence. Increasingly, school platforms are used to enhance health literacy among young people and discourage them from using tobacco. Integrating these activities, as well as the protection of pregnant women, infants and young children from tobacco within a framework of a “smoke-free generation” has been proven effective in creating broad support for tobacco control policies in the Netherlands (32). Compelling messages about the long-term effects of tobacco use on parental health and that of their offspring can increase awareness for action. Most convincing actions will be peer-support and collective action to say ‘no’ to tobacco. Health authorities should remain vigilant to tobacco industry efforts to disseminate false, paradoxical and promotional messages in school settings; industry stakeholders and those funded by them must be prohibited from input into message development.

**A ‘smoke-free generation’ can be more than a dream.** In the face of overwhelming evidence of child health benefits of tobacco control, several countries are moving forward by expanding smoke-free areas and working towards enabling a ‘smoke-free generation’. Beyond enclosed public places and workplaces, governments are starting to regulate smoking in outdoor spaces, such as school grounds, playgrounds and outdoor dining areas, as well as in private places such as cars. Several evaluations have shown that smoke-free car policies successfully reduce children’s tobacco smoke exposure (33,34), and extension of smoke-free policies beyond public places and workplaces should be considered by countries already having comprehensive policies in place. Implementation of comprehensive smoke-free environments will positively impact multiple targets of the Sustainable Development Goals framework (see Box 3). Unless authoritative action is taken now, the health and wellbeing of children will be compromised, today and for future generations.

**BOX 3**

## Key Sustainable Development Goals and targets linked to tobacco and child health

### Target 3.2

By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births

### Target 3.4

By 2030, reduce by one third premature mortality from noncommunicable diseases through prevention and treatment and promote mental health and well-being

### Target 3.8

Achieve universal health coverage, including financial risk protection, access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

### Target 3.a

Strengthen the implementation of the *WHO Framework Convention on Tobacco Control* in all countries, as appropriate

### Target 8.7

Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms

### Target 8.8

Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

**1** NO POVERTY



#### Goal 1.

End poverty in all its forms everywhere

**10** REDUCED INEQUALITIES



#### Goal 10.

Reduce inequality within and among countries

**Implementation of comprehensive smoke-free environments will positively impact multiple targets of the Sustainable Development Goals framework**

# Did you know?

More than

# 80%

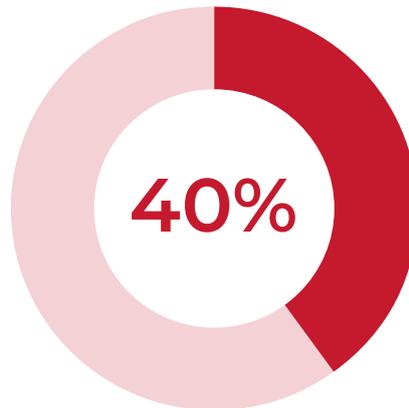
of a human brain is formed in the first three years.

The care and support parents and other caregivers provide children in the earliest years is critical for healthy brain development.

# 0-3

The human brain develops faster from conception to age three years than at any other time.

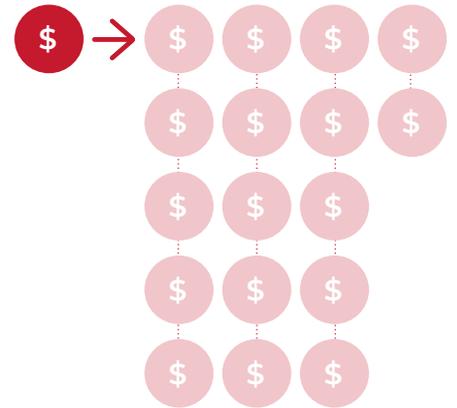
Nurturing, protecting and supporting caregivers and children is essential to achieve the Sustainable Development Goals.



In low- and middle-income countries, 250 million children younger than 5 years – more than 40% of children – have greater risk of not reaching their developmental potential because of poverty and neglect.



In the first years of life, parents, close family members, and other caregivers are the closest to the young child and thus the best providers of nurturing care. In order to provide caregivers with time and resources to provide nurturing care, policies, services, and community supports need to be in place.



Every additional US\$ 1 invested in early childhood development can yield a return of between US\$ 6 and US\$ 17 (35).



Nurturing care improves health, productivity and social cohesion throughout a lifetime, and the benefits continue into the next generation.



## Smoke-free resources

### How to make your campus smoke-free

<https://apps.who.int/iris/bitstream/handle/10665/330766/WHO-NMH-PND-2019.8-eng.pdf?ua=1>

### Clean air: a basic human right

[https://www.who.int/tobacco/mpower/publications/en\\_tfi\\_mpower\\_brochure\\_p.pdf?ua=1](https://www.who.int/tobacco/mpower/publications/en_tfi_mpower_brochure_p.pdf?ua=1)

## Other policy resources

### WHO technical manual on tobacco tax administration

[https://www.who.int/tobacco/publications/tax\\_administration/en/](https://www.who.int/tobacco/publications/tax_administration/en/)

### Gender, women and tobacco epidemic monograph

[https://www.who.int/tobacco/publications/gender/women\\_tob\\_epidemic/en/](https://www.who.int/tobacco/publications/gender/women_tob_epidemic/en/)

### Programme guidance for early-life prevention of non-communicable diseases

<https://www.unicef.org/media/61431/file>

## Cessation resources

### Training for tobacco quit line counsellors: telephone counsellors

[https://www.who.int/tobacco/publications/smoking\\_cessation/9789241507264/en/](https://www.who.int/tobacco/publications/smoking_cessation/9789241507264/en/)

### Mobile health for tobacco cessation (mCessation)

[https://www.who.int/publications/item/mobile-health-for-tobacco-cessation-\(mtobacco cessation\)](https://www.who.int/publications/item/mobile-health-for-tobacco-cessation-(mtobacco cessation))

### Strengthening health systems for treating tobacco dependence in primary care

[https://www.who.int/tobacco/publications/building\\_capacity/training\\_package/treatingtobacco-dependence/en/#:~:text=Building%20capacity%20for%20tobacco%20control%3A%20training%20package&text=This%20training%20package%20aims%20to,brief%20advice%20into%20primary%20care](https://www.who.int/tobacco/publications/building_capacity/training_package/treatingtobacco-dependence/en/#:~:text=Building%20capacity%20for%20tobacco%20control%3A%20training%20package&text=This%20training%20package%20aims%20to,brief%20advice%20into%20primary%20care)

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## Nurturing care framework for early childhood development

The *Nurturing Care Framework for early childhood development: a framework for helping children SURVIVE and THRIVE to TRANSFORM human potential* builds on state-of-the-art evidence of how child development unfolds and of the effective policies and interventions that can improve early childhood development. WHO, UNICEF and the World Bank Group developed the Framework in collaboration with the Partnership for Maternal, Newborn & Child Health, the Early Childhood Development Action Network and many other partners to provide a roadmap for attaining the Sustainable Development

Goals and the survive, thrive and transform goals of the Global Strategy on Women's, Children's and Adolescents' Health. Launched alongside the 71st World Health Assembly in May 2018, it outlines: i) why efforts to improve health and well-being must begin in the earliest years, from pregnancy to age 3 years; ii) the major threats to early childhood development; iii) how nurturing care protects young children from the effects of adversity and promotes physical, emotional and cognitive development; and iv) what families and caregivers need to provide nurturing care for young children.



### FOR MORE INFORMATION

[nurturing-care.org](http://nurturing-care.org)  
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