

DON'T LET TOBACCO TAKE YOUR BREATH AWAY



CHOOSE HEALTH NOT TOBACCO

31 MAY WORLD NO TOBACCO DAY #NoTobacco



#NoTobacco

CHOOSE HEALTH

NOT TOBACCO

31 MAY WORLD NO TOBACCO

WHO/NMH/PND/2019.3

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■ **56.9** MILLION ANNUAL DEATHS from all causes

■ **8** MILLION DEATHS caused by tobacco

■ **1** MILLION DEATHS due to second-hand smoke exposure

TOBACCO KILLS ONE PERSON EVERY FOUR SECONDS

TOBACCO IS DEADLY IN ANY FORM AND THREATENS THE LUNG HEALTH OF EVERYONE EXPOSED TO IT. TOBACCO KILLS ONE PERSON EVERY 4 SECONDS (1).

Newer tobacco products contain chemicals similar to those in traditional tobacco products and are likewise harmful to health. **Respiratory diseases are among the leading causes of death globally, and tobacco is a major risk factor (2).** The millions of deaths caused by tobacco-related respiratory disease are distressing, but even more distressing is the tremendous suffering caused by these illnesses, the debilitating effects of which affect the quality of life of people of all ages, in all regions of the globe.



TOBACCO EXPOSURE IS A THREAT TO LUNG HEALTH FOR EVERYONE – NOT JUST SMOKERS

TOBACCO SMOKE CONTRIBUTES TO INDOOR AIR POLLUTION, WHICH IS A MAJOR THREAT TO LUNG HEALTH. EVERY YEAR, OVER 1 MILLION DEATHS GLOBALLY ARE CAUSED BY SECOND-HAND SMOKE (1).

Second-hand smoke is smoke emitted from the burning end of a cigarette or from other smoked tobacco products, usually in combination with smoke exhaled by the smoker. Tobacco smoking and exposure to second-hand smoke are major risk factors for lung cancer, chronic obstructive pulmonary disease (COPD), tuberculosis (TB) and asthma.

Before they even learn to walk, children may begin suffering the effects of exposure to tobacco smoke (3). Infants born to mothers who smoke, or to women who

are exposed to second-hand smoke during pregnancy, are likely to suffer reduced lung growth and function (4). Chemicals found in tobacco smoke during critical stages of development in the womb have long-lasting, damaging effects on the lungs. **Smokers' children suffer reduced lung function, which continues to affect them in the form of chronic respiratory disorders in adulthood.**

Adolescents who smoke are more likely to suffer chronic respiratory disorders and risk permanently damaging their lungs. The lungs continue to grow well into adulthood, but inhaling the toxins found in tobacco smoke slows this process and causes potentially irreversible lung damage (5).

HOW DOES TOBACCO TAKE YOUR BREATH AWAY?

WITH JUST A SINGLE BREATH, THE HUNDREDS OF TOXINS IN TOBACCO SMOKE BEGIN DAMAGING THE LUNGS (6).

When tobacco smoke is inhaled, the structures that sweep mucus and dirt out of your airways are paralysed, allowing the poisonous substances in tobacco smoke to make their way into the lungs more easily.

The harmful effects of tobacco smoke on the lungs are almost immediate (6).

Tobacco smoke causes reduced lung function and breathlessness due to the swelling of airways and build-up of mucus in the lungs. The immediate respiratory symptoms are just part of the damage tobacco does to the lungs.

TOBACCO CONTROL MUST BE A GLOBAL PRIORITY

TOBACCO KILLS OVER 8 MILLION PEOPLE EVERY YEAR, DESPITE A STEADY REDUCTION IN TOBACCO USE GLOBALLY (7).

Between 2000 and 2016, current tobacco smoking prevalence rates declined from 27% to 20%. However, the pace of action to reduce tobacco demand and related death and disease is lagging behind global and national commitments to reduce tobacco use by 30% by 2025 (7).

If the trend continues, the world will achieve only a 22% reduction by 2025 (7).



1 MILLION DEATHS
due to second-hand smoke exposure

8 MILLION DEATHS
caused by tobacco every year

TUBERCULOSIS

TB is the top infectious killer in the world. In 2017, 1.6 million people lost their lives because of TB, and 10 million people fell ill with the disease (8). It primarily affects the lungs, and causes infected people to cough up blood and experience severe chest pain (9). The bacterium that causes TB (*M. tuberculosis*) enters the body and establishes an infection. However, this infection does not necessarily develop into active disease – a state called latent TB infection. Latent TB may develop into active disease at any time, particularly when the immune system is weakened. **About one quarter of the world's population has latent TB, placing them at risk of developing the active disease (9).** Smoking substantially increases the risk of TB and death from TB. More than 20% of global TB incidence may be attributable to tobacco (10).

TOBACCO SMOKING MORE THAN DOUBLES THE RISK OF TRANSFORMING TB FROM A LATENT STATE TO THE ACTIVE DISEASE (11).

Exposure to second-hand smoke also increases the risk of progression from latent TB infection to active disease. If the disease is not treated appropriately, people with TB can die from respiratory failure. Tuberculosis patients are more likely to achieve better treatment outcomes by quitting tobacco use.



LUNG CANCER

GLOBALLY, 1.8 MILLION DEATHS ARE CAUSED BY LUNG CANCER ANNUALLY (12).

22x
more likely
for smokers

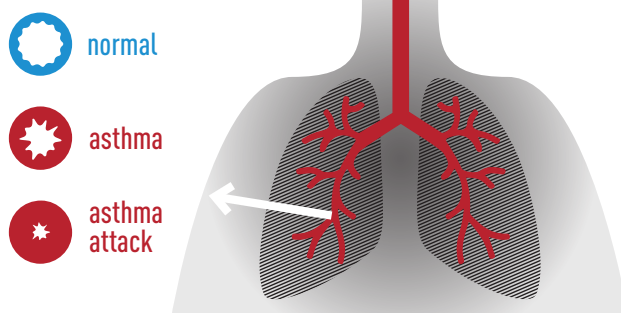


Tobacco smoking is the most common cause of lung cancer, causing roughly 1.2 million lung cancer deaths every year (12).

Smokers are up to 22 times more likely to develop lung cancer in their lifetime, compared with non-smokers (13-18). Non-smokers exposed to second-hand smoke at home or in the workplace have a 30% higher risk of developing lung cancer (3, 19). After 10 years free of tobacco, the risk of lung cancer is reduced to about half that of a smoker (4).

ASTHMA

SCHOOL-AGED CHILDREN OF SMOKERS ARE AT RISK OF DEVELOPING ASTHMA AND/OR THEIR ASTHMA GETTING WORSE. CHILDHOOD ASTHMA IS IRREVERSIBLE AND CONTRIBUTES TO MISSED SCHOOL-DAYS, DISRUPTED SLEEP AND RESTRICTED PLAY.



Asthma is a chronic disease of the air passages to the lungs, which causes inflammation and recurrent attacks of breathlessness and wheezing (20). WHO estimates that 235 million people currently suffer from asthma. Inhaling tobacco smoke is one of the major triggers for asthma to develop and/or worsen (20). In people living with asthma, tobacco smoking further restricts activity, contributes to work disability and increases the risk of severe asthma requiring emergency care. **Around one in nine asthma deaths can be attributed to tobacco smoking (21).** Patients with asthma can control their asthma more effectively if they quit tobacco.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Chronic obstructive pulmonary disease (COPD) is a lung disease that causes episodes of breathlessness, coughing and mucus production. These episodes are seriously disabling; they can last from several days to several months, and sometimes result in death (22). In 2016, it was estimated that over 251 million people live with COPD (22). Tobacco smoking is the most important risk factor for COPD, causing swelling and rupturing of the air sacs in the lungs, which reduces the lung's capacity to take in oxygen and expel carbon dioxide (23). It also causes the build-up of purulent mucus in the lungs, resulting in a painful cough and agonizing breathing difficulties (24).

One in five smokers will develop COPD in their lifetime (25), and almost half of COPD deaths are attributable to smoking (21).

Adults who were exposed to second-hand smoke during childhood, and had frequent infections of the lower respiratory tract as a result, are at risk of developing COPD. People who started smoking in their youth or adolescence are especially susceptible to developing COPD as a result of reduced lung growth and function (26). Most cases of COPD are preventable by avoidance or early cessation of tobacco smoking. Patients with COPD who stop smoking regain more lung function and suffer fewer long-term effects.



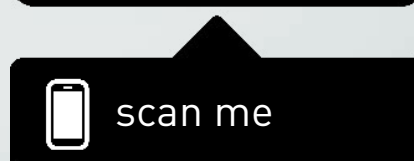
WORLD HEALTH ORGANIZATION RESPONSE



No level of exposure to tobacco smoke is risk-free. The best measure to prevent respiratory disease and improve lung health globally is to reduce tobacco use and exposure to tobacco smoke. The WHO Framework Convention on Tobacco Control (WHO FCTC) provides a strong, concerted response to the global tobacco epidemic and its enormous health, social, environmental and economic costs (27). It also gives the Parties to the Convention the necessary foundation and framework – both legal and technical – to enact comprehensive, effective tobacco control measures covering all sectors of government.

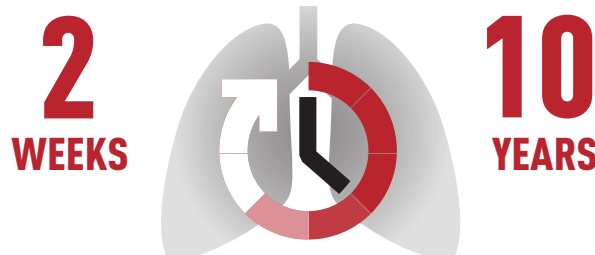
To help countries implement the WHO FCTC, WHO introduced the MPOWER technical package, which combines policy change with increased public awareness, in line with the key demand reduction measures of the Convention. Key strategies in this approach include creating smoke-free indoor public spaces, workplaces and public transport, banning tobacco advertising, promotion and sponsorship, significantly increasing taxes on tobacco products, requiring large pictorial health warnings on all tobacco products, supporting hard-hitting mass media campaigns, monitoring tobacco use and prevention policies, and offering tobacco users help to quit.

Several organizations and networks, including the Global Alliance against Chronic Respiratory Diseases (GARD), contribute to WHO's global work to prevent and control chronic respiratory diseases. GARD is a voluntary group of organizations, institutions and agencies that work together to assess needs, increase public awareness, advocate for action and formulate and promote policy to improve global lung health.



IT'S NEVER TOO LATE TO QUIT

Tobacco cessation saves lives and is a key element of the MPOWER measures, in line with Article 14 of the WHO FCTC. Quitting tobacco use has the potential to reverse some, but not all, of the damage done by tobacco smoke to the lungs. **Quitting as soon as possible is therefore essential to prevent the onset of chronic lung disease, which is potentially irreversible once it has developed.** Lung function improves within just two weeks of quitting tobacco use (4). Quitting smoking after a diagnosis of lung disease is associated with better treatment outcomes and improved quality of life.



Effective cessation strategies include the following:



BRIEF ADVICE FOR TOBACCO CESSATION provided by health-care professionals as part of their routine practice is an essential intervention for prevention and management of lung diseases in primary care. Between 2007 and 2016, **comprehensive tobacco cessation services were made available to about 28% of the world's population** across 17 countries.

If they were adopted by all health-care providers, these interventions could reach a large number of tobacco users and encourage them to quit. Supporting TB patients' efforts to quit tobacco is also important to the success of any TB control programme.





TOLL-FREE QUITLINES are convenient, population-based methods for giving tobacco users access to intensive behavioural counselling.

Tobacco users increase their absolute quit rate by 4% using quitlines, and this rate can be further increased if counsellors make follow-up calls.



MOBILE PHONE-BASED TOBACCO CESSATION

programmes, such as the Be He@lthy Be Mobile mTobaccoCessation programme, reach a wide population of users with personalized support through mobile text messaging. These programmes help tobacco users to quit and are efficient and cost-effective. In India, **the mTobaccoCessation programme achieved a self-reported 19% quit rate** at 4–6 months of follow-up, compared with an estimated baseline population quit rate of 5% [28]. The programme has been implemented in Burkina Faso, Costa Rica, India, the Philippines and Tunisia, but the content is readily available for local adaptation to any country context.



LIFE IS FULL OF BREATHTAKING MOMENTS DON'T LET TOBACCO BE ONE OF THEM

Lung health is essential to achieving overall health and well-being, and tobacco smoke affects the lung health of both smokers and non-smokers throughout the world. The threat to lung health posed by tobacco use and exposure to tobacco smoke makes action for tobacco control relevant to many different categories of disease.

If the commitment expressed in the United Nations Sustainable Development Goals – to reduce premature mortality from noncommunicable diseases by one third by 2030 – is to be achieved, tobacco control must be made a priority.



REFERENCES

1. GBD 2017 Risk Factor Collaborators. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. Seattle, WA: Institute for Health Metrics and Evaluation; 2018.
2. Forum of International Respiratory Societies. The global impact of respiratory disease, 2nd edition. Sheffield: European Respiratory Society; 2017 (https://www.firsnet.org/images/publications/The_Global_Impact_of_Respiratory_Disease.pdf, accessed 22 March 2019).
3. The health consequences of involuntary exposure to tobacco smoke: a report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2006.
4. The health consequences of smoking: 50 years of progress. A report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.
5. Preventing tobacco use among youth and young adults: a report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2012.
6. How tobacco smoke causes disease: the biology and behavioral basis for smoking-attributable disease: a report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2010.
7. Resolution WHA66.10. Follow-up to the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases. In: Sixty-sixth World Health Assembly, Geneva, 20-27 May 2013. Resolutions and decisions, annexes. Geneva: World Health Organization; 2013 (WHA66/2013/REC/1; http://apps.who.int/gb/ebwha/pdf_files/WHA66-REC1/WHA66_2013_REC1_complete.pdf, accessed 20 March 2019).
8. Global tuberculosis report 2018. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO.
9. Tuberculosis [fact sheet]. Geneva: World Health Organization; 2018 (<https://www.who.int/news-room/fact-sheets/detail/tuberculosis>, accessed 20 March 2019).
10. Lönnroth K, Raviglione M. Global epidemiology of tuberculosis: prospects for control. *Semin Respir Crit Care Med*. 2008;29:481-91.
11. Lin HH, Ezzati M, Murray M. Tobacco smoke, indoor air pollution and tuberculosis: a systematic review and meta-analysis. *PLoS Med*. 2007;4(1):e20.
12. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin*. 2018;68(6):394-424.
13. Jayes L, Haslam PL, Gratziou CG, Powell P, Britton J, Vardavas C et al. SmokeHaz: systematic reviews and meta-analyses of the effects of smoking on respiratory health. *Chest*. 2016;150(1):164-79.
14. Pesch B, Kendzia B, Gustavsson P, Jöckel KH, Johnen G, Pohlabeln H et al. Cigarette smoking and lung cancer – relative risk estimates for the major histological types from a pooled analysis of case-control studies. *Int J Cancer*. 2012;131(5):1210-9.
15. O’Keeffe LM, Taylor G, Huxley RR, Mitchell P, Woodward M, Peters SAE. Smoking as a risk factor for lung cancer in women and men: a systematic review and meta-analysis. *BMJ Open*. 2018;8(10):e021611.
16. Jacob L, Freyn M, Kalder M, Dinas K, Kostev K. Impact of tobacco smoking on the risk of developing 25 different cancers in the UK: a retrospective study of 422,010 patients followed for up to 30 years. *Oncotarget*. 2018;9(25):17420-9.
17. IARC Working Group on the Evaluation of Carcinogenic Risks to Humans. Tobacco smoke and involuntary smoking (IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Vol. 83). Lyon: International Agency for Research on Cancer; 2004.
18. Lee PN, Forey BA, Coombs KJ. Systematic review with meta-analysis of the epidemiological evidence in the 1900s relating smoking to lung cancer. *BMC Cancer*. 2012;12:385.
19. Öberg M, Woodward A, Jaakkola M, Peruga A, Prüss-Ustün A. Global estimate of the burden of disease from second-hand smoke. Geneva: World Health Organization; 2010.
20. Asthma [fact sheet]. Geneva: World Health Organization; 2017.
21. GBD Compare: Viz Hub. In: Institute for Health Metrics and Evaluation [website]. Seattle, WA: Institute for Health Metrics and Evaluation, University of Washington; 2019 (<http://vizhub.healthdata.org/gbd-compare>, accessed 20 March 2019).
22. Chronic obstructive pulmonary disease (COPD) [fact sheet]. Geneva: World Health Organization; 2017 ([https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-\(copd\)](https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-(copd)), accessed 20 March 2019).
23. Janson C, Marks G, Buist S, Gnatiuc L, Gislason T, McBurnie MA et al. The impact of COPD on health status: findings from the BOLD study. *Eur Respir J*. 2013;42(6):1472-83.
24. Chronic obstructive pulmonary disease (COPD). In: American Lung Association [website]. Chicago, IL: American Lung Association; 2019 (<https://www.lung.org/lung-health-and-diseases/lung-disease-lookup/copd/learn-about-copd/how-does-copd-affect-your.html>, accessed 20 March 2019).
25. Terzikhan N, Verhamme KM, Hofman A, Stricker BH, Brusselle GG, Lahousse L. Prevalence and incidence of COPD in smokers and non-smokers: the Rotterdam Study. *Eur J Epidemiol*. 2016;31(8):785-92.
26. Chan JY, Stern DA, Guerra S, Wright AL, Morgan WJ, Martinez FD. Pneumonia in childhood and impaired lung function in adults: a longitudinal study. *Pediatrics*. 2015;135(4):607-16.
27. Resolution WHA56.1. WHO framework convention on tobacco control. In: Fifty-sixth World Health Assembly, Geneva, 19-28 May 2003. Geneva: World Health Organization; 2008 (http://apps.who.int/gb/archive/pdf_files/WHA56/ea56r1.pdf, accessed 20 March 2019).
28. Gopinathan P, Kaur J, Joshi S, Prasad VM, Pujari S, Panda P et al. Self-reported quit rates and quit attempts among subscribers of a mobile text messaging-based tobacco cessation programme in India. *BMJ Innovations*. 2018;4:147-54.

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