

Chapter 1 : Smoking facts and evidence | Cancer Research UK

Key facts and evidence from a 3rd edition by Emma Washbourne. Orders: please contact Bookpoint Ltd, Milton Park, Abingdon, Oxon OX14 4SB.

Key facts Tobacco kills up to half of its users. Tobacco kills more than 7 million people each year. More than 6 million of those deaths are the result of direct tobacco use while around are the result of non-smokers being exposed to second-hand smoke. Leading cause of death, illness and impoverishment The tobacco epidemic is one of the biggest public health threats the world has ever faced, killing more than 7 million people a year. Tobacco users who die prematurely deprive their families of income, raise the cost of health care and hinder economic development. In some countries, children from poor households are frequently employed in tobacco farming to provide family income. These children are especially vulnerable to "green tobacco sickness", which is caused by the nicotine that is absorbed through the skin from the handling of wet tobacco leaves. Surveillance is key Good monitoring tracks the extent and character of the tobacco epidemic and indicates how best to tailor policies. Second-hand smoke kills Second-hand smoke is the smoke that fills restaurants, offices or other enclosed spaces when people burn tobacco products such as cigarettes, bidis and water-pipes. There are more than chemicals in tobacco smoke, of which at least are known to be harmful and more than 50 are known to cause cancer. There is no safe level of exposure to second-hand tobacco smoke. In adults, second-hand smoke causes serious cardiovascular and respiratory diseases, including coronary heart disease and lung cancer. In infants, it causes sudden death. In pregnant women, it causes low birth weight. Almost half of children regularly breathe air polluted by tobacco smoke in public places. Second-hand smoke causes more than premature deaths per year. Every person should be able to breathe tobacco-smoke-free air. Smoke-free laws protect the health of non-smokers, are popular, do not harm business and encourage smokers to quit. Tobacco users need help to quit Studies show that few people understand the specific health risks of tobacco use. Among smokers who are aware of the dangers of tobacco, most want to quit. Counselling and medication can more than double the chance that a smoker who tries to quit will succeed. Picture warnings work Hard-hitting anti-tobacco advertisements and graphic pack warnings especially those that include pictures reduce the number of children who begin smoking and increase the number of smokers who quit. Graphic warnings can persuade smokers to protect the health of non-smokers by smoking less inside the home and avoiding smoking near children. Mass media campaigns can also reduce tobacco consumption by influencing people to protect non-smokers and convincing youths to stop using tobacco. Ad bans lower consumption Bans on tobacco advertising, promotion and sponsorship can reduce tobacco consumption. Taxes discourage tobacco use Tobacco taxes are the most cost-effective way to reduce tobacco use, especially among young and poor people. Even so, high tobacco taxes is a measure that is rarely implemented. Tobacco tax revenues are on average times higher than spending on tobacco control, based on available data. Illicit trade of tobacco products must be stopped The illicit trade in tobacco products poses major health, economic and security concerns around the world. It is estimated that 1 in every 10 cigarettes and tobacco products consumed globally is illicit. The illicit market is supported by various players, ranging from petty peddlers to organized criminal networks involved in arms and human trafficking. Tax avoidance licit and tax evasion illicit undermine the effectiveness of tobacco control policies, particularly higher tobacco taxes. These activities range from legal actions, such as purchasing tobacco products in lower tax jurisdictions, to illegal ones such as smuggling, illicit manufacturing and counterfeiting. The tobacco industry and others often argue that high tobacco product taxes lead to tax evasion. However, the evidence shows that non-tax factors including weak governance, high levels of corruption, poor government commitment to tackling illicit tobacco, ineffective customs and tax administration, and informal distribution channels for tobacco products are often of equal or greater importance. There is broad agreement that control of illicit trade benefits tobacco control and public health and result in broader benefits for governments. Critically, this will reduce premature deaths from tobacco use and raise tax revenue for governments. Stopping illicit trade in tobacco products is a health priority, and is achievable. But to do so requires improvement of national and sub-national tax administration

systems and international collaboration. Internal industry documents released as a result of court cases demonstrate that the tobacco industry has actively fostered the illicit trade globally. It also works to block implementation of tobacco control measures, such as tax increases and pictorial health warnings, by misleadingly arguing they will fuel the illicit trade. Experience from many countries demonstrate that illicit trade can be successfully addressed even when tobacco taxes and prices are raised, resulting in increased tax revenues and reduced tobacco use. Implementing and enforcing strong measures to control illicit trade enhances the effectiveness of significantly increased tobacco taxes and prices, as well as strong tobacco control policies, in reducing tobacco use and its health and economic consequences. It is an evidence-based treaty that reaffirms the right of people to the highest standard of health, provides legal dimensions for international health cooperation and sets high standards for compliance. Monitor tobacco use and prevention policies Protect people from tobacco use Offer help to quit tobacco use Warn about the dangers of tobacco Enforce bans on tobacco advertising, promotion and sponsorship Raise taxes on tobacco. For more details on progress made for tobacco control at global, regional and country level, please refer to the series of WHO reports on the global tobacco epidemic. WHO report on the global tobacco epidemic The Protocol to Eliminate Illicit Trade in Tobacco Products requires a wide range of measures relating to the tobacco supply chain, including the licensing of imports, exports and manufacture of tobacco products; the establishment of tracking and tracing systems and the imposition of penal sanctions on those responsible for illicit trade. It would also criminalize illicit production and cross-border smuggling. Related World No Tobacco Day

Chapter 2 : Some Key Facts From The Evidence - Altogether Better

Sun and UV facts and evidence | Cancer Research UK Wed, 10 Oct GMT Read the key facts about sun, UV and cancer risk, and find the supporting evidence to see why we say what we do.

Smoking facts and evidence Smoking facts and evidence Read the key facts about smoking and cancer risk, and find the supporting evidence from academic research and scientific studies to see why we say what we do. Tobacco is the single biggest cause of cancer Experts agree that tobacco is the single biggest avoidable cause of cancer in the world. It also causes tens of thousands of deaths each year in the UK from other conditions, including heart and lung problems. Oxford Textbook of Medicine. Oxford University Press; Mortality from smoking in developed countries - or later. The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland and the United Kingdom in British Journal of Cancer <https://www.bjcr.com/> Accessed January 9, Mortality in relation to smoking: Tobacco smoking and all-cause mortality in a large Australian cohort study: Avoidable global cancer deaths and total deaths from smoking. There is some evidence that smoking could cause breast cancer [3]. Smoking causes a higher proportion of lung cancer cases than for other cancer types. The voice box larynx has the next-highest proportion of cases linked to smoking with almost two-thirds of cases caused by smoking [8]. Tobacco smoking and cancer: Preventable exposures associated with human cancers. J Natl Cancer Inst. Active and passive cigarette smoking and breast cancer risk: Results from the EPIC cohort. Active smoking and breast cancer risk: Smoking before the first pregnancy and the risk of breast cancer: Lung cancer is by far the most common cause of cancer death in the UK [1,3]. People who smoke were first shown to be more likely to develop lung cancer than non-smokers in [4]. This study found that people who smoked around 20 cigarettes a day had 26 times the lung cancer risk of non-smokers. And people who smoked around 3 cigarettes a day still had 6 times the lung cancer risk of non-smokers. After these first results came out, UK scientists began a large long-running study of smoking in British doctors, which Cancer Research UK has helped to fund, that has told us a lot about the dangers of smoking [5]. This study has found similarly huge risks associated with smoking. Men who smoked 25 or more cigarettes a day had over 24 times the risk of dying from lung cancer as men who had never smoked [6]. There are long time lags between changes in the number of people who smoke and the number of people who develop lung cancer due to smoking [7]. So rates of lung cancer in the UK reflect smoking rates decades earlier. But research has shown that lung cancer risk is greatest among those who smoke the most cigarettes, over the longest period of time, having started at the youngest age [9,10]. Although both have an effect on risk, the number of years someone has spent smoking is more important than the number of cigarettes they smoke a day [11]. This means that overall, smoking 20 cigarettes a day for 20 years is even worse for you than smoking 40 a day for 10 years. Lung cancer mortality statistics. Doll R, Hill AB. Smoking and carcinoma of the lung: The mortality of doctors in relation to their smoking habits: One study found that people who smoked up to 4 cigarettes a day were about 50 per cent more likely to die prematurely than non-smokers [1]. And the Million Women study found that women who smoked up to 10 cigarettes a day were twice as likely to die prematurely than non-smokers [2]. Large studies looking at the health risks of smoking, such as the British Doctors Study and the Million Women Study, have found that people smoking between 1 and 14 cigarettes a day are at least 7 times as likely to die from lung cancer compared to people who have never smoked [2]. And one study found people who smoked between 5 and 9 cigarettes a day had a higher risk of dying from lung cancer, or any type of cancer [1]. Bjartveit K, Tverdal A. Health consequences of smoking cigarettes per day. The 21st century hazards of smoking and benefits of stopping: Mortality from cancer in relation to smoking: And the earlier you stop, the better [3]. And even people who quit smoking when they were about 60 years old lost fewer years of life to smoking than those who continued [4]. N Engl J Med. Some studies have shown that considerably reducing your cigarette consumption, compared to carrying on smoking the same amount, has benefits for lung cancer risk and overall survival [1]. So although you only experience the full health benefits if you stop smoking altogether, cutting down can be a good first step, if you find it too difficult to quit completely in one go. Smoking

reduction at midlife and lifetime mortality risk in men: Effect of smoking reduction on lung cancer risk. Reduction and cessation of cigarette smoking and risk of cancer: Tverdal A, Bjartveit K. Health consequences of reduced daily cigarette consumption. Does smoking reduction in midlife reduce mortality risk? Results of 2 long-term prospective cohort studies of men and women in Scotland. Smoking reduction and cessation among young adult women: Smoking reduction predicts cessation: Reduction of quantity smoked predicts future cessation among older smokers. Reduction in amount smoked predicts future cessation. Tobacco smoke contains many dangerous chemicals Scientists have identified over 5,000 different chemicals in tobacco smoke [1]. The International Agency for Research into Cancer IARC, the gold standard for establishing the causes of cancer, state that there are more than 70 chemicals in tobacco smoke that have been found to cause cancer in studies involving people or in the laboratory [1]. And many of the other thousands of chemicals are toxic and harmful to your health, including carbon monoxide, hydrogen cyanide and ammonia [2,3]. In tobacco companies in the US released a list of different cigarette additives, which included chocolate, vanilla, sugar and liquorice as well as common herbs and spices [4]. Flavoured tobacco, such as menthol or chocolate-flavoured cigarettes, has been banned in Europe under the Tobacco Products Directive, [5] this will be introduced by Although additives necessary for manufacturing tobacco can continue to be used, including sugar lost during the curing process, tobacco companies will have to do more research into additives with the possibility that those found to be more harmful or addictive could be banned from use [5]. Hoffmann D, Hoffmann I. Smok Tob Control Monogr No 1 List of ingredients added to tobacco in the manufacture of cigarettes by 6 major American cigarette companies. Chemicals in smoke damage the body in many ways Chemicals found in tobacco smoke can damage DNA [1]. For example, studies have shown that benzo a pyrene damages a gene called p53 that normally protects our cells from cancer [1,4]. The cocktail of chemicals in tobacco smoke is even more dangerous as a mix. Toxic metals found in tobacco smoke, like cadmium, arsenic, and lead, stop our cells from repairing DNA damage [6]. This worsens the effects of chemicals like benzo a pyrene that damage DNA and makes it even more likely that damaged cells will eventually turn cancerous. Many tobacco poisons disable the cleaning system that our bodies use to remove toxins. Some substances including formaldehyde and acrolein kill cilia, tiny hairs in our airways that help to clear away toxins [1]. How Tobacco Smoke Causes Disease: Preferential formation of Benzo a pyrene adducts at lung cancer mutational hotspots in p Polonium and lung cancer. Koedrith P, Seo YR. Advances in carcinogenic metal toxicity and potential molecular markers. Int J Mol Sci. Nicotine is a highly addictive drug Most smokers do not smoke out of choice, but because they are addicted to nicotine [1,2]. This was highlighted in a report by The Royal College of Physicians into the effects of nicotine [1]. They looked at many things including how these drugs cause addiction, how difficult it is to stop using them and how many deaths they caused. People associate smoking with feeling less stressed and anxious, but the evidence suggests this is only because it temporarily relieves the unpleasant symptoms of nicotine withdrawal [1,2]. If anything, current smokers seem to feel more stressed and anxious than ex-smokers or people who have never smoked [1]. Smokers can also make mental associations with abstract things like the smell of cigarettes, objects related to smoking like ashtrays and lighters, and situations in which they usually smoke. These can all act to reinforce the addiction to smoking [2].

Key facts evidence. [Emma Washbourne] -- Key Facts is the essential revision series for anyone studying law, including LLB, ILEX and post-graduate conversion courses. The Key Facts series provides the simplest and most effective way for you.

Evolutionary theories continue to generate testable predictions and explanations about living and fossilized organisms. It is based on the evolutionary premise of an ancestral descendant sequence of genes, populations, or species. Individuals that evolve are linked together through historical and genealogical ties. Evolutionary trees are hypotheses that are inferred through the practice of phylogenetic theory. They depict relations among individuals that can speciate and diverge from one another. The evolutionary process of speciation creates groups that are linked by a common ancestor and all its descendants. Species inherit traits, which are then passed on to descendants. Evolutionary biologists use systematic methods and test phylogenetic theory to observe and explain changes in and among species over time. These methods include the collection, measurement, observation, and mapping of traits onto evolutionary trees. Phylogenetic theory is used to test the independent distributions of traits and their various forms to provide explanations of observed patterns in relation to their evolutionary history and biology. Evolution as theory and fact in the literature[edit] The following sections provide specific quotable references from evolutionary biologists and philosophers of science demonstrating some of the different perspectives on evolution as fact and theory. Evolution as fact[edit] American zoologist and paleontologist George Gaylord Simpson stated that "Darwin If you like, then, I will grant you that in an absolute sense evolution is not a fact, or rather, that it is no more a fact than that you are hearing or reading these words. Miller writes, "evolution is as much a fact as anything we know in science. How else except by the word evolution can we designate the sequence of faunas and floras in precisely dated geological strata? And evolutionary change is also simply a fact owing to the changes in the content of gene pools from generation to generation. Writing in , biologist Julian Huxley entitled the third book of the wide-ranging series *The Science of Life* , which dealt with the fossil record and the evidence of plant and animal structures, *The Incontrovertible Fact of Evolution*. He also says "Natural Selection There we come to speculative matter, to theories. Stephen Jay Gould writes, " It is also a fact. And facts and theories are different things, not rungs in a hierarchy of increasing certainty. Theories are structures of ideas that explain and interpret facts. Facts do not go away when scientists debate rival theories to explain them. Evolution, in this context, is both a fact and a theory. It is an incontrovertible fact that organisms have changed, or evolved, during the history of life on Earth. And biologists have identified and investigated mechanisms that can explain the major patterns of change. That evolution is a theory in the proper scientific sense means that there is both a fact of evolution to be explained and a well-supported mechanistic framework to account for it. Richard Lewontin wrote, "It is time for students of the evolutionary process, especially those who have been misquoted and used by the creationists, to state clearly that evolution is fact, not theory. Futuyma writes in *Evolutionary Biology* , "The statement that organisms have descended with modifications from common ancestorsâ€”the historical reality of evolutionâ€”is not a theory. It is a fact that we are cousins of gorillas, kangaroos, starfish, and bacteria. Evolution is as much a fact as the heat of the sun. Evolution is a fact. The term theory is no longer appropriate except when referring to the various models that attempt to explain how life evolves Fitzhugh [39] writes that scientists must be cautious to "carefully and correctly" describe the nature of scientific investigation at a time when evolutionary biology is under attack from creationists and proponents of intelligent design. Fitzhugh writes that while facts are states of being in nature, theories represent efforts to connect those states of being by causal relationships: Theories are concepts stating causeâ€”effect relations. He nevertheless contends that referring to evolution as a "fact" is technically incorrect and distracts from the primary "goal of science, which is to continually acquire causal understanding through the critical evaluation of our theories and hypotheses. Robertson writing for National Science Teachers Association writes, "I have heard too many scientists claim that evolution is a fact, often in retort to the claim that it is just a theory. Rather than claiming so, I think scientists would be better served to agree that

evolution is a theory and then proceed to explain what a theory is -- a coherent explanation that undergoes constant testing and often revision over a period of time. To explain means to identify a mechanism that causes evolution and to demonstrate the consequences of its operation. These consequences are then the general laws of evolution, of which any given system or organism is a particular outcome. Graham Bell , Selection: The Mechanism of Evolution [42] "Proof" of a theory has different meanings in science. Proof exists in formal sciences , such as a mathematical proof where symbolic expressions can represent infinite sets and scientific laws having precise definitions and outcomes of the terms. Proof has other meanings as it descends from its Latin roots provable, probable, probare L. In this way natural selection and common ancestry has been proven. To remain consistent with the philosophy of science, however, advancement of theory is only achieved through disproofs of hypotheses. Model-based science uses idealized structures or mathematical expressions to strategically create simpler representations of complex worldly systems. Models are designed to resemble the relevant aspects of hypothetical relations in the target systems under investigation. For example, evolutionary phylogeneticists run simulations to model the tree like branching process of lineages over time. In turn, this is used to understand the theory of phylogenetics and the methods used to test for relations among genes, species, or other evolutionary units.

Chapter 4 : Key Facts Evidence - CRC Press Book

Some Key Facts From The Evidence Key Facts From The Evidence Community Health Champions promote health through talking to people informally as part of their daily lives, providing support to individuals and through organising or leading health groups and activities.

Key facts Lead is a cumulative toxicant that affects multiple body systems and is particularly harmful to young children. Lead in the body is distributed to the brain, liver, kidney and bones. It is stored in the teeth and bones, where it accumulates over time. Human exposure is usually assessed through the measurement of lead in blood. Lead in bone is released into blood during pregnancy and becomes a source of exposure to the developing fetus. There is no known level of lead exposure that is considered safe. Lead exposure is preventable. Its widespread use has resulted in extensive environmental contamination, human exposure and significant public health problems in many parts of the world. Important sources of environmental contamination include mining, smelting, manufacturing and recycling activities, and, in some countries, the continued use of leaded paint, leaded gasoline, and leaded aviation fuel. More than three quarters of global lead consumption is for the manufacture of lead-acid batteries for motor vehicles. Lead is, however, also used in many other products, for example pigments, paints, solder, stained glass, lead crystal glassware, ammunition, ceramic glazes, jewellery, toys and in some cosmetics and traditional medicines. Drinking water delivered through lead pipes or pipes joined with lead solder may contain lead. Much of the lead in global commerce is now obtained from recycling. Young children are particularly vulnerable to the toxic effects of lead and can suffer profound and permanent adverse health effects, particularly affecting the development of the brain and nervous system. Lead also causes long-term harm in adults, including increased risk of high blood pressure and kidney damage. Exposure of pregnant women to high levels of lead can cause miscarriage, stillbirth, premature birth and low birth weight. Sources and routes of exposure People can become exposed to lead through occupational and environmental sources. This mainly results from: An additional source of exposure is the use of certain types of unregulated cosmetics and medicines. High levels of lead have, for example, been reported in certain types of kohl, as well as in some traditional medicines used in countries such as India, Mexico and Viet Nam. Consumers should therefore take care only to buy and use regulated products. Young children are particularly vulnerable to lead poisoning because they absorb 4-5 times as much ingested lead as adults from a given source. This route of exposure is magnified in children with a psychological disorder called pica persistent and compulsive cravings to eat non-food items, who may, for example pick away at, and eat, leaded paint from walls, door frames and furniture. Exposure to lead-contaminated soil and dust resulting from battery recycling and mining has caused mass lead poisoning and multiple deaths in young children in Nigeria, Senegal and other countries. Once lead enters the body, it is distributed to organs such as the brain, kidneys, liver and bones. The body stores lead in the teeth and bones where it accumulates over time. Lead stored in bone may be remobilized into the blood during pregnancy, thus exposing the fetus. Undernourished children are more susceptible to lead because their bodies absorb more lead if other nutrients, such as calcium or iron, are lacking. Children at highest risk are the very young including the developing fetus and the impoverished. Health effects of lead poisoning on children Lead exposure can have serious consequences for the health of children. At high levels of exposure, lead attacks the brain and central nervous system to cause coma, convulsions and even death. Children who survive severe lead poisoning may be left with mental retardation and behavioural disorders. At lower levels of exposure that cause no obvious symptoms, and that previously were considered safe, lead is now known to produce a spectrum of injury across multiple body systems. Lead exposure also causes anaemia, hypertension, renal impairment, immunotoxicity and toxicity to the reproductive organs. The neurological and behavioural effects of lead are believed to be irreversible. There is no known safe blood lead concentration. But it is known that, as lead exposure increases, the range and severity of symptoms and effects also increases. Encouragingly, the successful phasing out of leaded gasoline in most countries, together with other lead control measures, has resulted in a significant decline in population-level blood lead concentrations. There are now only 3 countries

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that continue to use leaded fuel. More, however, needs to be done regarding the phasing out of lead paint: The highest burden was in low- and middle-income countries. IHME also estimated that in 2010, lead exposure accounted for 1.5 million WHO response WHO has identified lead as 1 of 10 chemicals of major public health concern, needing action by Member States to protect the health of workers, children and women of reproductive age. WHO has made available through its website a range of information on lead, including information for policy-makers, technical guidance and advocacy materials. WHO is currently developing guidelines on the prevention and management of lead poisoning, which will provide policy-makers, public health authorities and health professionals with evidence-based guidance on the measures that they can take to protect the health of children and adults from lead exposure. Its broad objective is to promote a phase-out of the manufacture and sale of paints containing lead and eventually eliminate the risks that such paints pose. The phasing out of lead paint by 2025 is one of the priority actions for governments included in the WHO Road map to enhance health sector engagement in the Strategic Approach to International Chemicals Management towards the goal and beyond. The elimination of lead paint will contribute to the achievement of the following Sustainable Development Goal targets: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination; and By 2050, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

Chapter 5 : Key Facts About Influenza (Flu) | Seasonal Influenza (Flu) | CDC

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Chapter 8 : Key Facts Evidence: 3rd Edition (Paperback) - Routledge

Since the beginning of the Industrial Revolution, the acidity of surface ocean waters has increased by about 30 percent. 13, 14 This increase is the result of humans emitting more carbon dioxide into the atmosphere and hence more being absorbed into the oceans.

Chapter 9 : BBC - Weather Centre - Climate Change - Key Points

One of forensic science's strangest pieces of incriminating evidence involved the crimes of Ted Bundy, one of history's most infamous serial killers. His modus operandi was to violently bludgeon an innocent victim to a helpless state, and then strangle her to death.