Introduction
Smoking is the primary cause of preventable illness and premature death, accounting for approximately 100,000 deaths a year in the United Kingdom. Smoking harms nearly every organ of the body and dramatically reduces both quality of life and life expectancy. Smoking causes lung cancer, respiratory disease and heart disease as well as numerous cancers in other organs including lip, mouth, throat, bladder, kidney, stomach, liver and cervix. The 2010 US Surgeon General report, ‘How Tobacco Smoke Causes Disease’, concludes that “there is no risk-free level of exposure to tobacco smoke, and there is no safe tobacco product.”

It is estimated that the global yearly death toll as a result of tobacco use is currently 6 million (including exposure to secondhand smoke). On current smoking trends this is expected to rise to around 10 million a year by 2030. It is predicted that by the end of the 21st century, tobacco will have killed one billion people.

For every death caused by smoking, approximately 20 smokers are suffering from a smoking related disease. In England it is estimated that in 2012-13, among adults aged 35 and over, around 460,900 NHS hospital admissions were attributable to smoking, accounting for 5% of all hospital admissions in this age group. The cost of smoking to the National Health Service in England is estimated to be £2 billion a year.

Deaths caused by smoking
Smoking is the leading cause of preventable death and disease in the UK. About half of all life-long smokers will die prematurely, losing on average about 10 years of life. Smoking kills more people each year than the following preventable causes of death combined: [figures for England except HIV which is for UK and traffic accidents for Great Britain]

- obesity (34,100)
- alcohol (6,592)
- road traffic accidents (1,775)
- illegal drugs (1,605)
- HIV infection (530)

Most smoking-related deaths are from one of three types of disease: lung cancer, chronic obstructive pulmonary disease (COPD which incorporates emphysema and chronic bronchitis) and coronary heart disease (CHD). In 2013, 17 per cent (78,200) of all deaths of adults aged 35 and over in England were estimated to be attributable to smoking (around one in six).

Of these smoking caused:
- 36,800 (27%) of all cancer deaths
- 23,800 (35%) of all respiratory deaths
- 16,700 (13%) of all circulatory disease deaths
Estimated percentages and numbers of deaths attributable to smoking in England by cause among adults aged 35 and over, 2013

<table>
<thead>
<tr>
<th>Cancers</th>
<th>Number of deaths</th>
<th>% of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All deaths</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deaths estimated to be caused by smoking</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Lung, Trachea and Bronchus</td>
<td>28,521</td>
<td>13,600</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>6,324</td>
<td>2,900</td>
</tr>
<tr>
<td>Bladder</td>
<td>4,226</td>
<td>1,200</td>
</tr>
<tr>
<td>Pancreas</td>
<td>7,082</td>
<td>800</td>
</tr>
<tr>
<td>Upper respiratory sites</td>
<td>2,059</td>
<td>1000</td>
</tr>
<tr>
<td>Stomach</td>
<td>3,733</td>
<td>600</td>
</tr>
<tr>
<td>Kidney &amp; renal pelvis</td>
<td>3,423</td>
<td>700</td>
</tr>
<tr>
<td>Larynx</td>
<td>649</td>
<td>400</td>
</tr>
<tr>
<td>Myeloid leukaemia</td>
<td>2,495</td>
<td>300</td>
</tr>
<tr>
<td>Cervical</td>
<td>663</td>
<td>-</td>
</tr>
<tr>
<td>Unspecified site</td>
<td>8,019</td>
<td>2,000</td>
</tr>
<tr>
<td>All Cancer</td>
<td>134,969</td>
<td>23,500</td>
</tr>
<tr>
<td>Respiratory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic obstructive lung disease*</td>
<td>25,597</td>
<td>10,300</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>24,636</td>
<td>2,300</td>
</tr>
<tr>
<td>All Respiratory</td>
<td>68,891</td>
<td>12,600</td>
</tr>
<tr>
<td>Digestive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stomach and duodenal ulcer</td>
<td>1,839</td>
<td>500</td>
</tr>
<tr>
<td>Circulatory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>59,165</td>
<td>5,200</td>
</tr>
<tr>
<td>Aortic aneurysm</td>
<td>5,448</td>
<td>2,000</td>
</tr>
<tr>
<td>Cerebrovascular disease (stroke)</td>
<td>32,274</td>
<td>1,500</td>
</tr>
<tr>
<td>Other heart disease</td>
<td>22,901</td>
<td>1,600</td>
</tr>
<tr>
<td>Other arterial disease</td>
<td>2,471</td>
<td>200</td>
</tr>
<tr>
<td>Atherosclerosis</td>
<td>158</td>
<td>0</td>
</tr>
<tr>
<td>All Circulatory</td>
<td>129,968</td>
<td>10,600</td>
</tr>
<tr>
<td>All Deaths</td>
<td>223,249</td>
<td></td>
</tr>
<tr>
<td>Total caused by smoking</td>
<td>47,200</td>
<td>31,000</td>
</tr>
</tbody>
</table>

NB: The estimated attributable number of deaths is rounded to the nearest 100. Numbers may not all total due to rounding.

*ICD codes J40-J44 which includes bronchitis, emphysema and other chronic obstructive lung disease.
The proportion of deaths attributable to smoking is the median (mid-point) between the highest and lowest estimates for this group of diseases.
The health consequences of active smoking

Cancers
- Oropharynx
- Larynx
- Esophagus
- Trachea, bronchus, and lung
- Acute myeloid leukemia
- Stomach
- Liver
- Pancreas
- Kidney and ureter
- Cervix
- Bladder
- Colorectal

Chronic Diseases
- Stroke
- Blindness, cataracts, age-related macular degeneration
- Congenital defects—maternal smoking: orofacial clefts
- Periodontitis
- Aortic aneurysm, early abdominal aortic atherosclerosis in young adults
- Coronary heart disease
- Pneumonia
- Atherosclerotic peripheral vascular disease
- Chronic obstructive pulmonary disease, tuberculosis, asthma, and other respiratory effects
- Diabetes
- Reproductive effects in women (including reduced fertility)
- Hip fractures
- Ectopic pregnancy
- Male sexual function—erectile dysfunction
- Rheumatoid arthritis
- Immune function
- Overall diminished health

Note: The condition in red is a new disease that has been causally linked to smoking in the report:
The Health Consequences of Smoking—50 Years of Progress, A Report of the US Surgeon General

The health consequences of passive smoking

Children
- Middle ear disease
- Respiratory symptoms, impaired lung function
- Lower respiratory illness
- Sudden infant death syndrome

Adults
- Stroke
- Nasal irritation
- Lung cancer
- Coronary heart disease
- Reproductive effects in women: low birth weight

Note: The condition in red is a new disease that has been causally linked to smoking in the report:
The Health Consequences of Smoking—50 Years of Progress, A Report of the US Surgeon General
Non fatal diseases
There are many medical conditions associated with or aggravated by smoking, which may not be fatal but still cause years of debilitating illness. These include:¹⁴ ¹⁵

Heart and circulation:
Angina, Buerger’s Disease (severe circulatory disease), Peripheral vascular disease.

Respiratory:
Asthma, Common cold, Chronic rhinitis (inflammation of nose), Influenza, Tuberculosis.

Stomach/digestive system:
Colon polyps, Crohn’s disease (chronic inflamed bowel), Duodenal ulcer, Stomach ulcer.

Mouth:
Gingivitis & Periodontitis (gum disease), Tooth loss, Tooth discoloration.

Ligaments, muscles and bones:
Ligament, tendon and muscle injuries, Neck and back pain, Osteoporosis (in both sexes), Rheumatoid arthritis.

Eyes:
Cataract, Macular degeneration, Nystagmus (abnormal eye movements), Optic neuropathy (loss of vision), Ocular histoplasmosis (fungal eye infection), Tobacco Amblyopia (loss of vision), Diabetic retinopathy, Optic neuritis.

Skin:
Psoriasis, Skin wrinkling.

Reproductive functions:
Female fertility (30% lower), Menopause (onset 1.74 years earlier on average), Male fertility (Impotence, Reduced sperm count and motility, sperm less able to penetrate the ovum, increased shape abnormalities).

Other:
Depression, Hearing loss, Multiple sclerosis, Type 2 Diabetes.

Perceptions of health
Smoking has an impact on people’s perceptions of health, with smokers in some age groups twice as likely as non-smokers of a similar age to feel that they are not in good health.

Perceived health by age and smoking status, UK, January to December 2014 ¹⁶

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Current Smoker</th>
<th>Never Smoker</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 - 24</td>
<td>83.0</td>
<td>91.9</td>
</tr>
<tr>
<td>25 - 34</td>
<td>79.9</td>
<td>90.7</td>
</tr>
<tr>
<td>35 - 49</td>
<td>69.5</td>
<td>85.2</td>
</tr>
<tr>
<td>50 - 64</td>
<td>56.3</td>
<td>76.0</td>
</tr>
<tr>
<td>65+</td>
<td>48.8</td>
<td>62.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>68.3</td>
<td>80.9</td>
</tr>
</tbody>
</table>

Integrated Household Survey, January to December 2014¹⁶

Resources
For information about tobacco use and related harm at local level in England, please refer to Public Health England’s Local Tobacco Control Profiles for England.

For more statistics on deaths from smoking in the UK and worldwide visit: www.deathsfromsmoking.net
References

7. Local costs of smoking, 2015 Action on Smoking and Health