**OECD Health Statistics 2018**
**Definitions, Sources and Methods**

**Average number of cigarettes per smoker per day (age 15+)**

The average number of cigarettes per smoker per day.

**Sources and Methods**

**Australia**

**Sources:**

**Coverage:**
- **1998 onwards:** Population aged 15 years old and over.
- **1974-1995:** Population aged 16 years old and over.

**Methodology:**
- From **1998 onwards**, mean number of cigarettes smoked is an underestimate, as the survey question was structured in ranges. The mean number of cigarettes smoked was calculated using an upper limit of 31 cigarettes.


**Austria**

**Sources:**
- **2014:** Statistics Austria, Austrian Health Interview Survey 2014.
- **2006:** Statistics Austria, Austrian Health Interview Survey 2006/2007.

**Methodology:** Data are based on daily cigarette smokers.

**Further information:** [http://www.statistik.at/web_en/](http://www.statistik.at/web_en/).

**Belgium**

**Sources:**
- **From 2004 onwards:** Scientific Institute of Public Health, Direction of Public Health and Surveillance, Health Interview Survey.
- **Until 1979:** Centre de Recherche et d’Information des Organisations de Consommateurs.

**Coverage:** Population aged 15 years old and over.

**Methodology:** Sample size: 1945 persons surveyed in 2004 and 1394 in 2008.

Canada

Sources:
From 2001: Statistics Canada, Canadian Community Health Survey (CCHS), custom tabulations.

Coverage: Population aged 15 years old and over.

Methodology:
- As of 2007, the CCHS became an annual survey (prior to this date it was a biennial survey) of persons aged 12 years old and over, living in private dwellings, half of whom are interviewed in person, and the other half by telephone. It excludes persons living on Indian Reserves or Crown lands, residents of institutions, full-time members of the Canadian Armed Forces and residents of certain remote regions. The CCHS covers approximately 98% of the Canadian population aged 12 years old and over. Data are collected directly from respondents. Non-responses were removed from the calculation.
- Data show the average number of cigarettes smoked per day by daily smokers aged 15 years old and over.

Data from other surveys had different methodologies, and the relevant questions were asked in a different manner, thus comparisons between surveys should be done with caution.

Break in time series in 2015: As a result of the 2015 redesign, the Canadian Community Health Survey (CCHS) has a new collection strategy, a new sample design, and has undergone major content revisions. With all these factors taken together, caution should be taken when comparing data from previous cycles to data released for the 2015 cycle onwards.

Further information:

Chile

Coverage: In 2003, population aged 17 years old and over.

Czech Republic

Source: National Institute of Public Health, Developments in the prevalence of smoking among adults in the Czech Republic - Opinions and attitudes of the population to the issue of smoking.
Coverage: National representative sample survey, population aged 15 years old and over.
Methodology:
- Total number of respondents: 1600 to 1800.
- Data refer to daily smokers.

Denmark

Source: The Danish Health Authority.
Methodology: Smokers were asked “How many cigarettes do you smoke daily?” The options given are in intervals where the middle of the interval is the number used. One option was “30 or over” which is set to 30 if chosen. The mean is then found.

Estonia

Coverage: Data refer to population aged 16 to 64 years old.

Methodology:
- Postal survey carried out every second year.
- In the survey, the wording of this particular question is: How many cigars, cigarettes/pipefuls a day do you usually smoke? (Please provide an answer for each type of smoke, i.e. filtered cigarettes, unfiltered cigarettes, hand-rolled cigarettes, (Russian) cigarettes, cigars or pipefuls).
- In 2002 the question was left out of the survey.
- Data refer to daily smokers only.
- Equivalent in nicotine: 1 cigar = 1 pipeful = 5 cigarettes.

Further information: The original survey publications are:

Finland


Coverage: 1978-2014 population aged 15 to 64 years old.

Methodology:
- Random sample (N=5000) of population annually 1978-2014.
- The time series discontinued in 2015.
- Question: “How much do you smoke currently or how much did you smoked on average before you quitted smoking. Answer all items. Answer 0 if you do not smoke at all.”
- Data refer to factory-made cigarettes and self-rolled cigarettes.


France

Sources:
From 1988: Institut de recherche et documentation en économie de la santé (Irdes). Health, Care, and Social Protection survey (ESPS); Observatoire français des Drogues et des toxicomanies (OFDT), for total tobacco sales in tonnes; Institut national de la statistique et des études économiques for demographic data by age groups.
1960, 1965 and 1967: SOFRES and IFOD surveys carried out by Société d'exploitation industrielle des tabacs et des allumettes (Seita).

Coverage:
2012: Population aged 15 years old and over.
1988 to 2010: Population aged 16 years old and over.

Methodology:
- Calculation: [(Tonnes of tobacco sold x 1000000 (in order to obtain grams)) / (population aged 15 years old and over x percentage of total smokers aged 15 years old and older)] / 365 or 366 days depending on the year.
- The ESPS survey started in 1988, on an annual basis and became bi-annual starting in 2002.
- 1 cigarette equals 1 gram.

Germany


Methodology:
- The data are based on every day and occasional cigarette smokers (manufactured and hand-rolled cigarettes).
- Question: “On average, how many cigarettes did you smoke each day?”
- Answer from reporting year 2017 onwards: “Less than 1; from 1 to 5; from 6 to 10; from 11 to 20; 21 or more”.
- Answer until reporting year 2014: “Write down the answer in number of cigarettes”.
- The Special Eurobarometer 458 was carried out between the 18th and the 27th of March 2017.
- It covers the population of the respective nationalities of the 28 European Union Member States, residents in each of the Member States aged 15 years old and over.
- The basic sample design applied in all states is a multi-stage, random (probability) one.
- 27,901 respondents (1,537 in Germany) from different social and demographic groups were interviewed face-to-face at home and in their mother tongue on behalf of the Directorate-General for Health and Food safety (DG SANTE).


Greece


Coverage: Data refer to the population aged 15 years old and over (2009 and 2014 data).

Methodology: Data refer to daily smokers.

Further information:

Hungary

Sources:
1994: Johan Béla National Center of Epidemiology (OEK), Health Behaviour Survey.


Methodology: Question asked in the survey: On average how many cigarettes, cigars or pipes do you smoke a day?


Iceland

Data not available.

Ireland

Sources:
From 2015: Annual Healthy Ireland Survey, commissioned by the Department of Health as part of the Healthy Ireland initiative. The questions used were standard EHIS questions.
Until 2007: Office of Tobacco Control.

Methodology:
From 2015: The average number of cigarettes per smoker per day is estimated by averaging the total number of manufactured cigarettes and hand-rolled cigarettes per daily smoker aged 15+ using data collected from respondents in the Healthy Ireland survey.
Until 2007: The Office of Tobacco Control monitored cigarette smoking prevalence and behaviour on a monthly basis. The data consist of a collection of 1,000 responses per month from the Irish population over 15 years old. One of the questions reports on consumption: “How many cigarettes do you smoke per day?” Data for the 12-month periods ending in December are provided (the mean number of cigarettes smoked per day).

Break in time series in 2015 due to a change in source.
Further information: http://www.ntco.ie/research.asp.

Israel

2017: Israel Center for Disease Control (ICDC), Ministry of Health. National KAP survey (Knowledge, Attitudes and Practices) conducted periodically since 2002 by the Israel Center for Disease Control (ICDC) and the Department of Health Education and Promotion, Ministry of Health.


Coverage:

2017: The National KAP Survey (Knowledge, Attitudes and Practices) is based on a nationally-representative population sample of the non-institutionalised civilian population aged 21 and above.

2016: The National Survey of Physical Activity is based on representative population sample aged 18 and over. However, the data presented for 2016 are for persons aged 21 and over, in order to be consistent with data previously reported from the KAP and INHIS surveys.

2014: INHIS survey based on representative population sample aged 21 and over.


Methodology:

2017: The KAP 2017 survey, a population-based telephone survey, was carried out on a sample of 3,214 Israelis aged 21 years and over.

- Note: The KAP surveys in previous years were based on samples of land-line telephones only. In the KAP 2017 survey, the sample included both land-lines and mobile telephones. This needs to be taken into account when drawing comparisons or measuring trends over time.

- The average number of cigarettes per day is based on data for daily smokers.

2016: The National Physical Activity Survey was a population-based telephone survey conducted on a representative sample of 3,368 Israelis aged 18 and over. The data reported in the OECD database are based on 3,241 Israelis aged 21 and over, in order to be consistent with data reported in previous years from the KAP and INHIS surveys.

Break in time series in 2016: The survey sample included both landlines and mobile telephone for the first time in 2016. This needs to be taken into account when drawing comparisons or measuring trends over time.

- The average number of cigarettes per day was calculated for daily smokers.

2014: The INHIS 2014 survey is the third in a series of population-based National Health Interview Surveys. Previous surveys were conducted in 2003-2004 and 2007-2010. The INHIS 2014 survey is a telephone survey on a representative sample of 6000 Israelis aged 21 and above.

2002, 2004, 2006, 2008, 2010 and 2013: The KAP survey is a series of national, population-based telephone surveys generally conducted biannually on representative samples of the population. Samples consist of at least 3000 residents. The KAP 2013 survey was carried out on a sample of 6014 Israelis aged 21 years old and over.

- The average number of cigarettes per day is based on data for daily smokers.

Further information: https://www.health.gov.il/English/MinistryUnits/ICDC/Health_Surveys/Pages/KAP.aspx.

Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
Italy

From 1993: Survey “Aspect of daily living.”
Coverage: Population aged 15 years old and over.
Further information: http://en.istat.it/.

Japan

Sources:
Coverage: Data refer to the population aged 20 years old and over.
1987-1995: Japan Health Promotion and Fitness Foundation.

Korea

Sources:
Methodology:
- The sample size of the 7th National Health and Examination Nutrition Survey (2016-2018) is 4,416 families each year. It excludes the institutional dwelling units (e.g. dormitories, social welfare institutions, prisons, military camps, etc.) and foreigners.
- The National Health and Examination Nutrition Survey had been conducted every three years until 2005, and has become an annual survey in 2007.
- Question for the 15-18-year-olds: “Average number of cigarettes per day for those who have smoked at least one cigarette within a month.”
- Question for the 19-year-olds and over: “Average number of cigarettes per day for those who have answered to be ‘current smokers’.”
- Current smoker: People who have smoked more than 100 cigarettes in their life and currently smoke.
Coverage: Data refer to the population aged 15 years old and over.

Latvia

Source: Centre for Disease Prevention and Control of Latvia, Health Behaviour Survey among Latvian Adult Population.
Deviation from the definition: Data for 1998-2014 are for the age group 15-64 years old, data for 2016 are for the age group 15-74 years old.

Luxembourg

Definition: Average number of cigarettes smoked per day among daily cigarettes smokers. Note that data are not from the same sample used for determining the percentage of daily smokers.
Reference population: The population aged 15 years or over who are daily smokers of cigarettes.
Mexico

Sources:
2009, 2015: Adult Tobacco Global Survey (GATS). In Mexico, GATS was coordinated by the National Committee composed by the Ministry of Health, CONADIC, COFEPRIS, CENAVECE, the National Institute of Psychiatry and the National Institute of Respiratory Diseases.

Coverage:
2002, 2008, 2011 and 2017: Data refer to the population aged 18 to 65 years old.
2009 and 2015: Data refer to the population aged 15 years old and over.
2000, 2006 and 2012: Data refer to the population aged 20 years old and over.

Deviation from the definition: There is a deviation in the age group used in the Mexican surveys used for tobacco consumption.

Netherlands

Source: Statistics Netherlands. Annual Health Interview Survey.
Coverage: Population aged 15 years old and over. From 1989-2000, population aged 16 years old and over, excluding institutionalised households.
Methodology:
- In 1984, the excise on tobacco, especially cigarettes, increased very substantially.
- Data refer to both occasional and daily smokers.
- The question was “How many cigarettes do you smoke on average per day?” (with a possibility of a maximum 200 cigarettes).

Breaks in time series in 2010 and 2014 due to a redesign of the survey.

New Zealand

Sources:
2016: Ministry of Health, New Zealand Health Survey 2015/16.
2015: Ministry of Health, New Zealand Health Survey 2014/15.
Up to 1995: Statistics New Zealand ACNielsen (NZ) Ltd.
Methodology:
2016 and 2017: Interviews are carried out from July to June (following year), collecting information on 13598 individuals aged 15 years old and over in 2016-17 through face-to-face interviews (see the indicator for Perceived health status for further details).
- Question asked to current smokers (adults aged 15+ years who smoke at least monthly, and have smoked more than 100 cigarettes in their whole life): “On average, how many cigarettes do you smoke a day? Less than 1 per day / 1–5 per day / 6–10 per day / 11–15 per day / 16–20 per day / 21–25 per day / 26–30 per day / 31 or more a day”
From 1996 to 2014:
- The Ministry of Health uses statistics of NZ tobacco consumption data in grams, estimates of prevalent current smokers for the adult population aged 15 years old and over, and estimated resident population aged 15 years and over to derive average cigarettes per smoker per day.
- A current smoker, based on the World Health Organization definition, is someone who has smoked more than 100 cigarettes in their lifetime and is currently smoking at least once a month (World Health Organization 1998).
- The assumption is made that 1 gram of tobacco equates to 1 cigarette.
- The prevalent number of current smokers is estimated using figures from the New Zealand Health Survey. Since 2011-12 the survey has been continuously in the field.
Statistics New Zealand population estimates for the mean year ended December for each year in the series from 1996 to 2014 were applied to the current smoker prevalence figures for corresponding years to determine the estimated number of smokers for each year in the series. Daily tobacco consumption in grams divided by the estimated number of prevalent smokers gives the estimated cigarettes per smoker per day. Tobacco consumption data relates to the year ended December. The cigarettes and tobacco available for consumption series was discontinued by Statistics New Zealand in September 2010, for reasons of confidentiality of published statistical information. Therefore, data are unavailable from 2010 onwards. The method to estimate national tobacco consumption is outlined for the indicator on tobacco consumption in grams per capita (age 15 years old and over).

**Break in time series in 2015:** From 1996 to 2014, the indicator was estimated based on the current smoker data provided by the NZHS and tobacco consumption data. From 2015, a new indicator has been added to the NZHS asking current smokers directly how many cigarettes they smoke: “On average, how many cigarettes do you smoke a day? Less than 1 per day / 1–5 per day / 6–10 per day / 11–15 per day / 16–20 per day / 21–25 per day / 26–30 per day / 31 or more a day”.

**Norway**

Coverage: Population aged 16 to 74 years old only.
Methodology: Interview survey.

**Poland**

Source: Statistics Poland.
2001: Multi-dimensional Living Conditions Questionnaire Survey.
Methodology: Instrument includes the following question: How many cigarettes do you smoke daily on average?

**Portugal**

Sources:
Methodology: It is not possible to calculate the average numbers of cigarettes per smoker per day using the questions included in the 2005-2006 and 2014 National Health Survey. However, the percentage of people smoking cigarettes daily is available for two categories: “Up to 20 cigarettes” and “More than 21 cigarettes”, see table below.

<table>
<thead>
<tr>
<th>Daily smokers / number of cigarettes per smoker per day</th>
<th>NHS2005-2006</th>
<th>NHS 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 20 cigarettes</td>
<td>80,3%</td>
<td>90,7%</td>
</tr>
<tr>
<td>21 cigarettes or more</td>
<td>18,0%</td>
<td>8,6%</td>
</tr>
</tbody>
</table>

| NHS2005-2006 | 80,3% | 18,0% |
| NHS 2014     | 90,7% | 8,6%  |

Slovak Republic

Sources:
Coverage: For 2006, data refer to the population aged 18 years old and over. For 2009 and 2014, data refer to the population aged 15 years old and over.

Slovenia

Sources:
Methodology:
- 2014: The average number of cigarettes smoked by daily smokers, derived from EHIS question SK3: On average, how many cigarettes (manufactured or hand-rolled) do you smoke each day?
- 2007: The average number of cigarettes smoked by daily smokers, derived from EHIS question SK.3: On average, how many manufactured cigarettes do you smoke each day?
Coverage:
- 2014: Population living in private households (persons living in institutions are excluded), age 15+.
- 2007: Population living in private households (persons living in institutions are excluded), age 15+.
 Deviation from the definition: Data refer to daily smokers.
Further information:

Spain

Source: Ministerio de Sanidad, Servicios Sociales e Igualdad (Ministry of Health, Social Services and Equality) and National Statistics Institute:
Coverage:
From 2011: Population aged 15 years old and over.
Methodology: Average number of cigarettes per daily smoker. Includes only valid responses to "number of cigarettes consumed".
- From 2003, probabilistic sample.
Further information: http://www.msssi.gob.es/.

Sweden

Methodology: The surveys are conducted as personal interviews with a random sample from the population (including the institutionalised) aged 16-84 years old. 12000 to 13000 people are interviewed over a period of two years.
Note: Data are not available anymore after 1995.
Further information: http://www.scb.se.
Switzerland

Coverage: Population aged 15 years old and over.
Methodology:
- Less than one cigarette per day = 0.
- Smokers of cigars or pipes are not included.
Further information: 
http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen__quellen/blank/blank/ess/04.html

Turkey

Sources:
2003: School of Public Health of the Ministry of Health, National Burden of Disease and Cost Effectiveness Study.
Methodology: Data refer to daily smokers.
Further information: http://www.turkstat.gov.tr/

United Kingdom

Sources:
From 1974 onwards: NHS Digital using data from:
- England, Scotland and Wales: Office for National Statistics (ONS) General Lifestyle Survey:
- Northern Ireland: Central Survey Unit (CSU) of the Northern Ireland Statistics and Research Agency (NISRA). Northern Ireland could not supply data on smoking from 2011 onwards.
Coverage: Data are for smokers aged 16 years old and over for Great Britain from 2006 onwards.
Methodology:
- Data from 2000 have been weighted.
- The smoking module of the survey has been carried out in alternate years up to 2000. Data for years when survey was not run was completed when the next set of results were available.
⚠️ Break in time series: Data before 1974 are not comparable due to different methodologies between TAC and current surveys.
Further information: https://www.digital.nhs.uk/

United States

Coverage: National representative sample of the U.S. civilian non-institutionalised population aged 18 years old and over. For all years, except 1976 and 1977 when the minimum age was 20 years old.
Methodology: Estimates were weighted to represent the U.S. civilian non-institutionalised population for each time period.
⚠️ Break in time series in 1991: For the years 1965-1990, daily smoking could not be identified in the NHIS. Therefore, estimates of mean number of cigarettes for these years reflect amounts for all current smokers. Beginning in 1991, the NHIS distinguished between daily and non-daily smokers and estimates of mean number of cigarettes smoked for these years reflect amounts for daily smokers only.