
International Smoking Statistics

Web Edition

A collection of worldwide historical data

Canada

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¹ See footnotes to Tables

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¹ See footnotes to Figures

Preface

International Smoking Statistics is a collection of smoking data covering most of Europe and various other economically developed countries. The second edition (published by Wolfson Institute of Preventive Medicine and OUP, 2002, www.oup.co.uk/isbn/0-19-850856-5) included data for 30 countries up to 1995. Since 2006, work has been ongoing to make individual country updates available online. Please register at www.pnlee.co.uk if you wish to be informed when updates are posted.

The methods used in the web edition are essentially unchanged from those of the second edition, although some minor changes are included in the online Methods chapter. Readers are strongly recommended to consult the Methods chapter.

The two main types of data presented are sales data and survey data. We give the results of the original authors as closely as possible, whilst presenting them in a uniform format.

Sales data give the total national consumption of tobacco. Data on sales of cigarettes and of all tobacco products are presented, usually from about 1920. Estimates of the consumption of hand-rolled cigarettes are included where possible, as are data on the types of manufactured cigarettes sold. The Tobacco Research Council provided most of the sales data until 1973, while later sales data were obtained from government and industry sources.

Survey data provide information on the prevalence and amount of smoking according to age and sex. These were obtained from a wide variety of surveys. Some survey data are available for the early part of the 20th century, but for most countries they are available only from the 1950s or 1960s onwards.

In additional tables we calculate further statistics by combining sales and survey data using certain standardized assumptions. The figures are intended to provide an easily interpretable summary of the data presented in the tables, and the commentary has deliberately been kept to a minimum.

Downloads

Updates currently available to download from www.pnlee.co.uk include:

Methods, including

Appendix I: *Estimated size of adult population;*

Appendix II: *Comparisons of manufactured and hand-rolled cigarettes and differences in the way they are smoked;*

Appendix III: *Consumption category estimation;*

Comparisons between countries;

Updated country chapters (see *Methods* for current list);

Tables from each updated chapter, in Excel format, including extended versions of Tables 4 and 6 and Figure 3 for chapters issued since January 2011;

Supplement 1: *Estimation of sex-specific smoking statistics by standardized age groups and time periods.* [The web edition comprises a brief Update

Note, together with tables (in Excel format only) for the countries with a chapter in the web edition. The original Supplement 1 to the second edition (an extended version of Appendix IV to the second edition) is also available and gives a full description and tables for the other countries].

Also available from the same source are:

Supplement 2 to the second edition: *Estimating past smoking habits by an indirect method. An investigation into a method based on recall, with application to Great Britain.* [This supplement is an extended version of Appendix V to the second edition];

IMASS, a comprehensive Excel database system, based on WHO mortality data and smoking statistics from Supplement 1. The IMASS system includes powerful routines for creating graphs and tables.

Acknowledgements

We would like to acknowledge the tobacco industry for their financial support and for providing some of the sales data in International Smoking Statistics.

We would also like to thank the many government and research organizations and individuals who supplied much of the information included.

We thank Yvonne Cooper, Pauline Wassell and Diana Morris for maintenance of our references database.

We are indebted to G. F. Todd, past director of the Tobacco Research Council, who, shortly before he died in 1988, had prepared a draft report from which the first edition of International Smoking Statistics developed.

Professor Nicholas Wald was an editor of earlier editions, and we thank him for his support and encouragement.

We alone bear the responsibility for the analysis and interpretation of the data presented.

Introduction

Sales data

See Tables 1-3 and *Notes on sources of sales data*.

From 1920 to the early 1980s the consumption of manufactured cigarettes per adult increased steadily from 1 cigarette per day to nearly 10. By the mid 2000s it had decreased to around 3 cigarettes per day. Legal sales were depressed in the early 1990s when smuggled cigarettes formed a major part of the market. Consumption of hand-rolled cigarettes per adult declined from 2 to less than 0.5 cigarettes per day between 1955 and the mid 2000s.

The consumption of all tobacco products per adult was about 6 g per day between 1920 and 1935, after which it rose to about 12 g per day in the 1960s and early 1970s. It fell below 3 g per day by 2004. In 1925, 22% of all tobacco consumed was in manufactured cigarettes, increasing to 88% in 1995 then reducing slightly, to 85%, by 2005. Use of plug tobacco (for chewing) and snuff declined rapidly from 30% of all tobacco in 1925 to 2% in 1960. Sales of pipe and hand-rolling tobacco increased rapidly during the 1920s and 1930s, peaked in the mid 1950s, and declined thereafter. A change in the data categories available makes it evident that pipe tobacco accounted for only a small proportion of pipe and hand-rolling tobacco by 1974.

Three quarters of manufactured cigarettes sold in 1966 were filtered, and this proportion increased to 98% by the mid 1980s. The sales-weighted average tar yield was 21 mg per cigarette in 1968, falling to 13 mg in 1981 and 12 mg in 1999. Between 1989 and 1999, sales-weighted averages for carbon monoxide also fell, from 14 mg per cigarette to 12 mg, but sales-weighted average nicotine remained fairly steady (in the range 1.0 to 1.2 mg per cigarette) during that period.

Survey data

See Tables 4-8 and *Notes on sources of survey data*.

A comprehensive series of data is available from surveys conducted almost annually from 1964-1986 (source 1). However, it has been suggested that these data under-estimate the prevalence of smoking, particularly among teenagers, because of the use of proxy interviews (source 2, see *Notes on sources of survey data*, p. 36). An analysis by Gilmore (2000) concludes that results from the various surveys conducted by Statistics Canada since 1985 are generally comparable.

In the mid-1960s, the prevalence of regular cigarette smoking among those aged 15 years and over was about 55% in men and 30% in women. This difference in prevalence between men and women has decreased since then owing initially to a decrease in prevalence among men, with estimates around 30% in the 1990s and around 20% in the early 2000s. The prevalence among women remained fairly level, just above 30%, during the 1970s, then declined gradually to below 20% in the early 2000s. Another 3-5% of both sexes smoked cigarettes occasionally.

Generally, in each age group more men than women smoked, but since the late 1970s some surveys have shown that, among teenagers, there were more young women than young men who smoked. For each age group, in men there was a decrease over time in the percentage of smokers. For women the same was true

for the age groups representing those aged 20 and older. However, among women aged 15-19 there was a rise in prevalence of regular smoking from 20% in the mid 1960s to nearly 30% during the 1970s, returning to about 20% by 1986, according to source 1. Source 2 gave higher estimates of prevalence but also showed a decrease between 1981-1986. Since then smoking prevalence among teenage women has remained fairly steady (19-25% for regular smoking), perhaps reducing somewhat since 2000.

Definitions of regular smoking vary considerably in surveys of teenagers, and comparisons should be made with caution.

Only very few men aged under 25 or women of any age smoke other tobacco products but not cigarettes; for men, the prevalence increases with age to 6-9% at age 65 years and over. No data are available on prevalence by type of cigarette.

Comparison of survey and sales data suggests that surveys under-reported consumption by 22-46%. Between 1964 and 2004, the estimated number of cigarettes smoked per person per day (sales-adjusted) decreased for men from about 14 to 5. For women this increased somewhat from nearly 7 to 8.5 by about 1980, then decreased to about 3.5 by 2004.

Table 1.1 Total annual sales of tobacco products, 1920-1973

Year	Manufactured cigarettes		Cigars		Pipe & HR ¹ tobacco tonnes	Plug tobacco tonnes	Snuff tonnes	All tobacco products tonnes
	tonnes	millions	tonnes	millions				
1920	2 660	2 441	1 530	270	6 400	2 990	320	13 900
1921	2 660	2 440	1 210	214	5 850	2 810	320	12 850
1922	2 220	2 043	1 010	179	5 130	4 580	320	13 260
1923	2 490	2 291	1 090	193	5 030	4 130	360	13 110
1924	2 740	2 515	960	169	5 130	3 760	360	12 950
1925	3 070	2 823	1 000	177	5 530	3 860	360	13 830
1926	3 510	3 227	1 000	177	5 810	3 630	360	14 310
1927	4 120	3 781	1 010	178	5 990	3 490	410	15 010
1928	4 830	4 436	1 060	187	6 940	3 220	450	16 500
1929	5 530	5 081	1 130	199	6 580	2 950	450	16 640
1930	5 480	5 036	1 040	183	7 030	2 680	450	16 680
1931	4 930	4 533	860	152	7 480	2 400	410	16 090
1932	4 040	3 713	750	133	7 850	2 090	360	15 090
1933	4 700	4 317	650	115	7 850	1 910	320	15 420
1934	5 250	4 822	680	120	8 160	1 910	360	16 360
1935	5 780	5 305	710	125	8 300	1 770	360	16 920
1936	6 100	5 600	690	122	8 710	1 680	360	17 540
1937	7 290	6 698	740	130	9 480	1 630	360	19 500
1938	7 480	6 872	750	132	9 660	1 450	360	19 710
1939	7 760	7 126	750	133	10 750	1 450	360	21 080
1940	8 240	7 572	940	166	11 570	1 410	360	22 520
1941	9 340	8 582	1 080	191	11 340	1 360	410	23 530
1942	11 150	10 240	1 140	201	11 250	1 590	410	25 530
1943	12 250	11 257	1 110	196	10 800	1 590	410	26 160
1944	12 700	11 666	1 120	198	10 480	1 450	450	26 210
1945	15 530	14 265	1 170	207	11 480	1 450	450	30 080
1946	16 180	14 867	1 250	221	11 610	1 320	450	30 820
1947	16 480	15 143	1 220	216	11 290	1 220	450	30 680
1948	17 260	15 853	1 190	210	11 750	1 040	450	31 690
1949	18 330	16 836	1 190	209	11 430	1 130	450	32 530
1950	18 690	17 172	1 130	199	11 750	1 040	410	33 020
1951	17 060	15 672	960	169	12 380	910	410	31 720
1952	19 430	17 844	1 130	200	14 060	820	410	35 850
1953	22 860	21 000	1 330	235	11 840	820	360	37 210
1954	24 080	22 116	1 390	245	11 110	680	410	37 670
1955	26 750	24 576	1 430	253	10 700	680	360	39 940
1956	29 390	27 000	1 450	256	9 620	540	360	41 370
1957	32 820	30 144	1 660	293	9 430	500	360	44 770
1958	35 280	32 404	1 830	323	9 890	590	360	47 950
1959	36 820	33 822	1 760	311	10 210	540	360	49 700
1960	37 330	34 289	1 880	332	10 300	500	410	50 410
1961	39 950	36 699	1 910	337	10 390	500	360	53 110
1962	42 110	38 683	2 000	352	10 570	500	410	55 580
1963	43 410	39 877	2 190	387	10 120	450	360	56 540
1964	44 240	40 639	2 230	491	9 620	450	410	56 950
1965	46 820	43 013	2 220	489	9 980	410	410	59 840
1966	50 380	46 276	1 980	437	8 710	410	360	61 840
1967	51 020	46 864	2 020	445	8 160	360	360	61 930
1968	50 370	46 269	2 100	462	8 750	320	360	61 900
1969	50 710	46 582	2 310	509	8 620	270	360	62 270
1970	54 240	49 823	2 540	560	8 660	270	360	66 080
1971	55 370	50 864	2 830	624	8 890	270	360	67 730
1972	58 010	53 291	2 590	570	8 710	270	360	69 940
1973	59 720	54 863	2 760	609	8 940	270	360	72 060

1 Tobacco for hand-rolled cigarettes

Source: see *Notes on sources of sales data, Sales data before 1974*, p. 33

Table 1.2 Total annual sales of tobacco products, 1974-2010

Year	Manufactured cigarettes			Cigars		Fine-cut tobacco tonnes	Other cut tobacco tonnes	Smokeless tobacco tonnes	All tobacco products tonnes
	tonnes	millions Legal	millions Smuggled	tonnes	millions				
1974	51 411	57 123		2 659	591	6 706	600		61 375
1975	51 980	57 756		2 223	494	6 759	953		61 915
1976	54 670	60 745		2 298	511	6 577	924		64 469
1977	55 608	61 787		2 092	465	6 313	865		64 878
1978	49 288	61 610		1 976	439	5 660	856		57 780
1979	51 093	63 866		1 896	421	5 227	813		59 028
1980	51 475	64 343		1 536	415	4 785	691		58 486
1981	53 100	66 376		1 622	439	4 765	721		60 209
1982	52 926	66 157		1 410	381	5 552	309		60 197
1983	50 228	62 785		1 276	345	6 023	292		57 819
1984	49 707	62 134		1 155	312	6 166	250		57 278
1985	47 444	59 304		1 130	305	6 866	192		55 632
1986	44 610	55 762		1 049	283	7 353			53 011
1987	42 302	52 877		968	262	7 751			51 021
1988	41 071	51 339		886	239	7 941			49 898
1989	38 212	47 765		822	222	7 734		370	47 137
1990	38 169	46 441	1 270	690	187	6 016		290	45 165
1991	43 565	39 135	4 430	606	164	6 293		285	50 748
1992	31 521	35 200	9 830	563	152	5 175		260	37 519
1993	31 192	30 350	14 210	532	144	4 025		310	36 059
1994	35 094	45 935	4 200	497	134	4 006		325	39 922
1995	31 997	45 710		44	12	3 813		485	36 339
1996	33 137	47 338		49	13	4 042		385	37 613
1997	31 948	45 640		83	22	3 937		252	36 220
1998	31 890	45 557		125	34	4 146		255	36 415
1999	31 411	44 873		155	42	4 104		259	35 929
2000	30 358	43 368		411	111	3 121		154	34 044
2001	29 461	42 087		764	206	2 474		312	33 011
2002	26 339	37 627		775	209	2 668		272	30 054
2003	25 073	35 818		878	237	2 690		236	28 877
2004	20 747	34 579		1 106	299	2 441		253	24 547
2005	19 782	32 971		1 279	346	2 020		258	23 340
2006	18 130	30 217		1 628	440	1 533		270	21 561
2007	17 223	28 705		2 233	604	1 269		280	21 005
2008	16 536	27 559		2 242	606	1 057		274	20 108
2009	18 894	28 628		2 280	616	1 034		285	22 493
2010	20 891	31 654		1 714	463	1 072		297	23 974

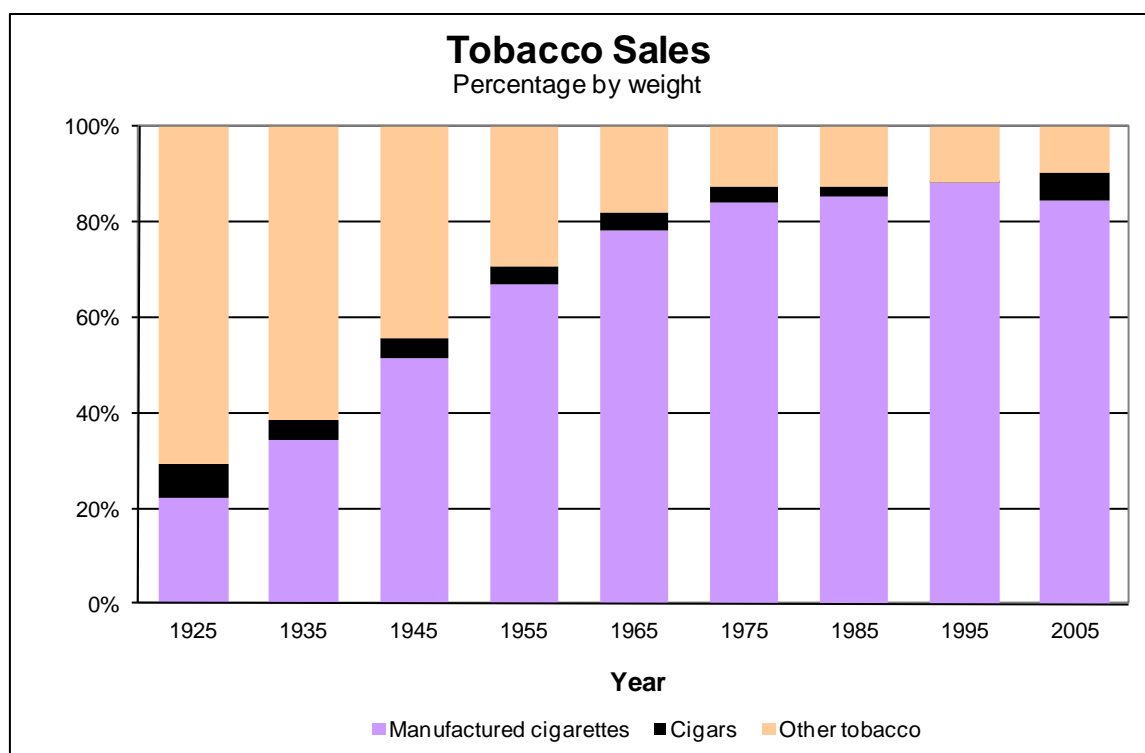
Source: see *Notes on sources of sales data, Sales data for 1974 onwards*, p. 33

Table 1.3 Percentage of sales of tobacco in different forms (by weight), selected years

Year	Manufactured cigarettes %	Cigars %	Other tobacco %
1925	22.2	7.2	70.6
1935	34.2	4.2	61.6
1945	51.6	3.9	44.5
1955	67.0	3.6	29.4
1965	78.2	3.7	18.0
1975	84.0	3.6	12.5
1985	85.3	2.0	12.7
1995	88.1	0.1	11.8
2005	84.8	5.5	9.8

Source: calculated from Tables 1.1 & 1.2

Figure 1 Percentage of sales of tobacco in different forms (by weight), selected years



Source: Table 1.3

Table 2 Sales of cigarettes (including estimated number of hand-rolled cigarettes) and of all tobacco products.
Annual total and average per adult (age 15 years and over) per day

Year	Manufactured Cigarettes		Hand-rolled cigarettes		Total cigarettes		All tobacco products	
	Total annual millions	Number/adult/day	Total annual millions	Number/adult/day	Total annual millions	Number/adult/day	Total annual tonnes	Grams/adult/day
1920	2 441	1.0					13 900	5.6
1921	2 440	1.1					12 850	6.0
1922	2 043	0.9					13 260	6.0
1923	2 291	1.0					13 110	5.9
1924	2 515	1.1					12 950	5.8
1925	2 823	1.2					13 830	6.1
1926	3 227	1.4					14 310	6.1
1927	3 781	1.6					15 010	6.4
1928	4 436	1.8					16 500	6.9
1929	5 081	2.1					16 640	6.8
1930	5 036	2.0					16 680	6.7
1931	4 533	1.7					16 090	6.1
1932	3 713	1.4					15 090	5.7
1933	4 317	1.6					15 420	5.8
1934	4 822	1.8					16 360	6.1
1935	5 305	1.9					16 920	6.2
1936	5 600	2.0					17 540	6.1
1937	6 698	2.3					19 500	6.8
1938	6 872	2.4					19 710	6.8
1939	7 126	2.4					21 080	7.2
1940	7 572	2.6					22 520	7.6
1941	8 582	2.9					23 530	7.8
1942	10 240	3.3					25 530	8.3
1943	11 257	3.6					26 160	8.5
1944	11 666	3.7					26 210	8.4
1945	14 265	4.5					30 080	9.5
1946	14 867	4.7					30 820	9.7
1947	15 143	4.7					30 680	9.5
1948	15 853	4.8					31 690	9.6
1949	16 836	4.9					32 530	9.4
1950	17 172	4.9					33 020	9.4
1951	15 672	4.4					31 720	8.9
1952	17 844	4.9					35 850	9.8
1953	21 000	5.7					37 210	10.0
1954	22 116	5.8					37 670	9.9
1955	24 576	6.4	8 600	2.2	33 176	8.6	39 940	10.4
1956	27 000	6.8	7 800	2.0	34 800	8.8	41 370	10.4
1957	30 144	7.4	7 600	1.9	37 744	9.3	44 770	11.0
1958	32 404	7.8	8 000	1.9	40 404	9.7	47 950	11.5
1959	33 822	8.0	8 200	1.9	42 022	9.9	49 700	11.7
1960	34 289	7.9	8 300	1.9	42 589	9.9	50 410	11.7
1961	36 699	8.3	8 400	1.9	45 099	10.3	53 110	12.1
1962	38 683	8.6	8 600	1.9	47 283	10.6	55 580	12.4
1963	39 877	8.7	8 200	1.8	48 077	10.5	56 540	12.4
1964	40 639	8.7	7 800	1.7	48 439	10.4	56 950	12.2
1965	43 013	9.0	8 160	1.7	51 173	10.7	59 840	12.6
1966	46 276	9.4	7 000	1.4	53 276	10.9	61 840	12.6
1967	46 864	9.3	6 600	1.3	53 464	10.6	61 930	12.3
1968	46 269	8.9	7 021	1.4	53 290	10.3	61 900	12.0
1969	46 582	8.8	6 817	1.3	53 399	10.1	62 270	11.7
1970	49 823	9.2	6 922	1.3	56 745	10.5	66 080	12.2
1971	50 864	9.2	7 189	1.3	58 053	10.5	67 730	12.2
1972	53 291	9.4	6 974	1.2	60 265	10.6	69 940	12.3
1973	54 863	9.5	7 359	1.3	62 222	10.7	72 060	12.4
1974	57 123	9.6	6 705	1.1	63 828	10.7	61 375	10.3
1975	57 756	9.5	6 710	1.1	64 466	10.6	61 915	10.1
1976	60 745	9.8	6 575	1.1	67 320	10.9	64 469	10.4
1977	61 787	9.7	6 315	1.0	68 102	10.7	64 878	10.2
1978	61 610	9.5	5 659	0.9	67 269	10.4	57 780	8.9
1979	63 866	9.7	5 227	0.8	69 093	10.5	59 028	8.9

Table 2 (continued)

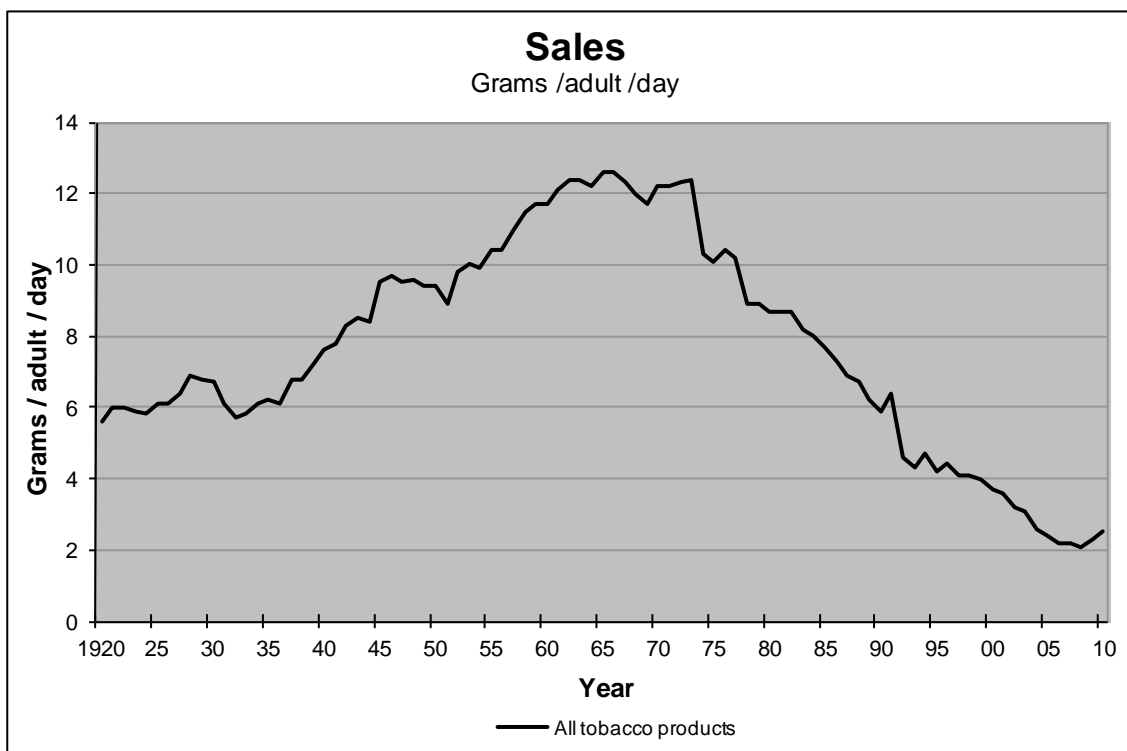
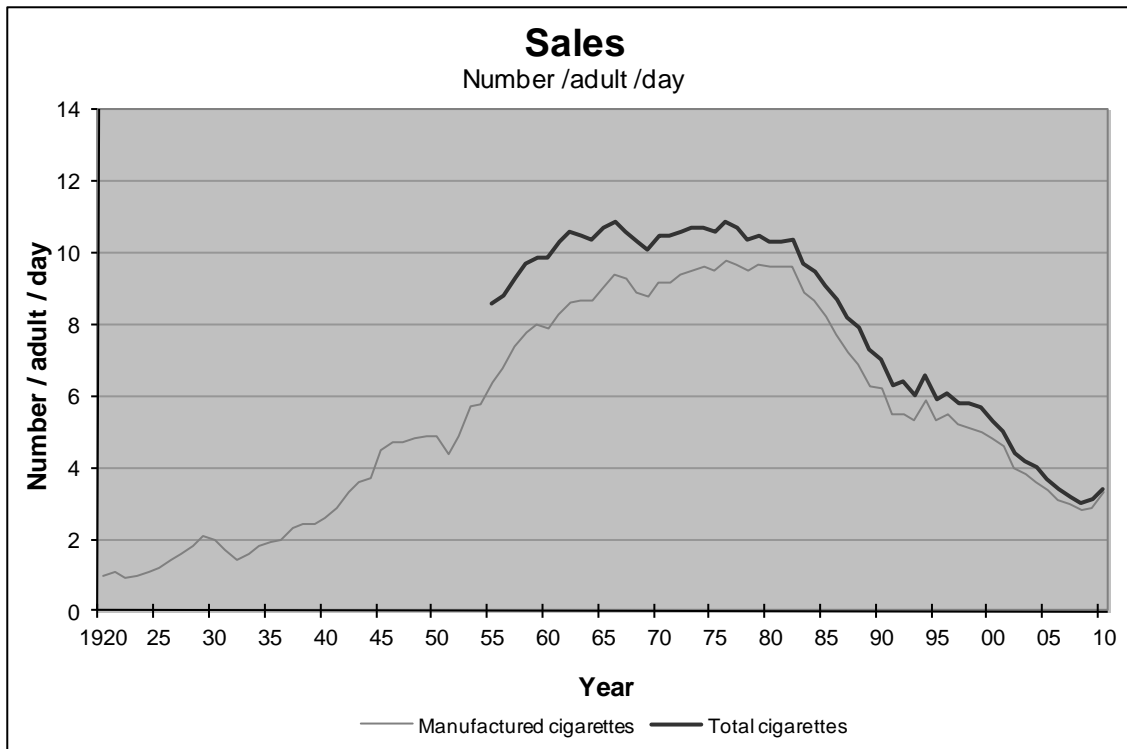
Year	Manufactured Cigarettes		Hand-rolled cigarettes		Total cigarettes		All tobacco products	
	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual tonnes	Grams/ adult/day
1980	64 343	9.6	4 875	0.7	69 219	10.3	58 486	8.7
1981	66 376	9.6	4 746	0.7	71 122	10.3	60 209	8.7
1982	66 157	9.6	5 535	0.8	71 693	10.4	60 197	8.7
1983	62 785	8.9	5 992	0.8	68 777	9.7	57 819	8.2
1984	62 134	8.7	6 131	0.9	68 265	9.5	57 278	8.0
1985	59 304	8.2	6 819	0.9	66 124	9.1	55 632	7.7
1986	55 762	7.7	7 353	1.0	63 115	8.7	53 011	7.3
1987	52 877	7.2	7 751	1.1	60 628	8.2	51 021	6.9
1988	51 339	6.9	7 941	1.1	59 280	7.9	49 898	6.7
1989	47 765	6.3	7 734	1.0	55 498	7.3	47 137	6.2
1990 ¹	47 711	6.2	6 016	0.8	53 727	7.0	45 165	5.9
1991 ¹	43 565	5.5	6 293	0.8	49 857	6.3	50 748	6.4
1992 ¹	45 030	5.5	7 393	0.9	52 423	6.4	37 519	4.6
1993 ¹	44 560	5.3	5 751	0.7	50 310	6.0	36 059	4.3
1994 ¹	50 135	5.9	5 723	0.7	55 858	6.6	39 922	4.7
1995	45 710	5.3	5 448	0.6	51 158	5.9	36 339	4.2
1996	47 338	5.5	5 774	0.7	53 112	6.1	37 613	4.4
1997	45 640	5.2	5 625	0.6	51 265	5.8	36 220	4.1
1998	45 557	5.1	5 922	0.7	51 479	5.8	36 415	4.1
1999	44 873	5.0	5 862	0.7	50 735	5.7	35 929	4.0
2000	43 368	4.8	4 459	0.5	47 827	5.3	34 044	3.7
2001	42 087	4.6	3 534	0.4	45 622	5.0	33 011	3.6
2002	37 627	4.0	3 811	0.4	41 439	4.4	30 054	3.2
2003	35 818	3.8	3 842	0.4	39 660	4.2	28 877	3.1
2004	34 579	3.6	4 068	0.4	38 647	4.0	24 547	2.6
2005	32 971	3.4	3 367	0.3	36 337	3.7	23 340	2.4
2006 ²	30 217	3.1	2 556	0.3	32 773	3.4	21 561	2.2
2007 ²	28 705	3.0	2 115	0.2	30 820	3.2	21 005	2.2
2008 ²	27 559	2.8	1 761	0.2	29 320	3.0	20 108	2.1
2009 ²	28 628	2.9	1 567	0.2	30 195	3.1	22 493	2.3
2010 ²	31 654	3.3	1 624	0.2	33 278	3.4	23 974	2.5

1 Includes estimates of smuggled cigarettes

2 Per adult data based on 2005 population

Source: Manufactured cigarettes and all tobacco products, Tables 1.1 and 1.2. Hand-rolled cigarettes, see *Notes on sources of sales data, Estimates of numbers of hand-rolled cigarettes for 1955-2010*, p. 34. Population, see *Population, Methods* p. 14.

Figure 2 Sales of (i) manufactured and total¹ cigarettes, and (ii) all tobacco products. Average per adult (aged 15 years and over) per day



¹ Includes estimated hand-rolled cigarette consumption
Source: Table 2

Table 3 Manufactured cigarettes: percentage of total sales as filter cigarettes; sales-weighted average machine yield per cigarette of tar (SWAT), nicotine (SWAN) and carbon monoxide (SWACO); average of seven brands: tar and nicotine

Year	Filter %	SWAT mg/cig	SWAN mg/cig	SWACO mg/cig	Average of 7 brands	
					Tar mg/cig	Nicotine mg/cig
1966	75.0					
1967	77.0					
1968	80.6	21.1			21	1.59
1969	83.8	19.6			21	1.68
1970	86.1	18.7			21	1.59
1971	87.7	18.7			21	1.54
1972	89.1	18.6			20	1.53
1973	90.5	17.0			20	1.57
1974	91.6	16.9			20	1.51
1975	92.9	17.0				
1976	93.9	16.6			21	1.62
1977	94.8	15.8			21	1.46
1978	96.0	15.0			20	1.41
1979	96.1	14.2			18	1.42
1980	96.5	13.7			18	1.29
1981	96.8	13.2			17	1.29
1982					16	1.23
1983					17	1.40
1984					17	1.41
1985					16	1.43
1986	98.3				16	1.45
1987	98.4				16	1.31
1988					15	1.34
1989		13.8	1.22	13.9	17	1.49
1990		13.1	1.14	13.5	15	1.36
1991		12.9	1.09	13.6	14	1.32
1992		12.0	1.01	12.9	15	1.27
1993		11.7	1.01	12.4	14	1.27
1994		11.9	1.10	12.4		
1995		12.3	1.20	12.4	15	1.27
1996		12.2	1.15	12.6		
1997	99.5	12.1	1.19	12.4		
1998	99.5	11.7	1.17	12.3		
1999		11.8	1.15	12.0		

Source: see *Notes on sources of sales data: Plain/Filter cigarette sales* p. 35, and *1997-1998: Maxwell, Jr. (1998) Tar, nicotine and CO machine yields of cigarettes*, p. 35

Table 4F Prevalence of smoking, females: selected surveys by age
(continues on p. 19)

Year	Source	Product	Frequency	Age Groups																	All ages				
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70	75	80+
56	5 UC U																								
60	6 UC R			3	8	18	25	33	33	30	23														
60	6 UC R				15		28																		
63	6 UC R				20		29																		
64	1 UC R								19				41		40			28			8				31
65	1 UC R								19				41		41			30			9				31
65	1 UC A								22				46		44			34			11				35
66	1 UC R								20				43		41			32			8				32
67	1 UC R								21				42		41			32			10				32
67	6 U R			11	24	32	38	44	44	45	39														
67	7 U R			8	15	25	36	37	41	41	37														
68	1 UC R								21				43		41			32			9				32
69	1 UC R								23				39		40			32			11				32
70	1 UC R								25				41		40			32			11				32
70	1 UC A								29				46		43			34			12				36
71	1 UC R								25				40		39			32			10				32
71	1 UC R				6	12	20	26	35	35															
71	8 UC *				12				24																
71	8 U *			4	12	22	31	34	33	33															
71	8 U R			12	25	37	45	46	45	46	48														
71	8 U A			17	33	43	51	52	52	51															
71	9 U R			4	12	22	31	34	33	33	38														
72	1 UC R								28				41		39			32			10				32
72	1 UC R				7	15	20	29	38	43															
73	1 UC R								29				41		38			32			11				32
73	1 UC R				7	16	21	29	38	40															
74	1 UC R								28				40		37			30			11				32
74	1 UC R				6	13	22	31	35	39															
74	1 UC A								33				44		41			33			13				35
75	1 UC R								27				38		37			32			11				31
75	1 UC R				6	12	22	26	35	43	38	39	38	35	37	33	30	26	26	17	10	6			
75	1 UC A								33				43		41			36			13				36
77	1 UC R								27				41		37			31			12				31
77	1 UC A								32				45		40			34			15				35
77	1 A A								32				45		40			34			15				35
78	8 UC *				11				29															21	
78	10 UC R								36				47		39			35			16				36
78	10 UC A								42				51		43			37			18				40
78	10 A A								43				51		43			37			19				40
78	11 U R			3	9	20	27	30	30	30	31														
78	11 U A			17	28	40	45	46	45	48	44														
79	1 UC R								26				40		36			29			11				30
79	1 UC A								31				43		40			32			13				34
79	1 A A								31				43		40			32			13				34
81	1 UC R								23				41		33			29			11				29
81	1 UC A								28				45		37			32			13				32
81	1 A A								28				45		37			32			13				32
81	2 UC R								38				46		35			31			12				32
81	2 UC A								42				50		38			33			14				35
81	12 UC *				10				36															27	
82	4 UC *				10				32															24	

Table 4M (continued from p. 16, continues on p. 20)
Prevalence of smoking, males

Year	Source	Product	Frequency	Age Groups																	All ages				
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70	75	80+
83	1	UC	R						20		37			39			36			22					34
83	1	UC	A						25		41			43			38			25					37
83	1	A	A						25		41			46			42			31					41
83	2	UC	R						34		40			40			38			24					37
83	2	UC	A						38		44			44			41			27					41
83	4	UC	*		7				30																23
83	4	U	U																						
84	4	UC	*		9				32																23
84	4	U	U																						
85	3	UC	R						20		32			38			36			23					33
85	3	UC	R								36					38		36	28	23	21	13			
85	3	UC	A						27		40			42			37			22					36
85	4	UC	*						35																
85	13	UC	R						24		34														
85	13	UC	A											36											
86	1	UC	R								33					37		32	23		17				
86	1	UC	R						17		31			35			34			19					31
86	1	UC	A						21		36			39			36			20					34
86	1	A	A						21		37			42			39			26					37
86	2	UC	R						20		33			35			34			18					32
86	2	UC	A						24		38			39			36			20					35
86	4	U	R						33		42														
86	4	U	U																						
87	14	UC	R										30		32		26		26						28
87	14	A	A										31		36		29		31						32
88	15	UC	R							33			35		32		31		22		16				30
88	15	UC	A						37		40			36		33		25		20					34
88	15	A	A						38		42			39		38		27		23					36
88	16	UC	A											34											
89	17	UC	R										35				36		33	24	23	16	14		
89	17	UC	A						22		37		38		38		36		33		22				33
90	13	UC	A						22		35					34				18					31
90	16	UC	A													33									
90	18	U	*		5		13																		
90	18	U	R		8		17																		
90	18	U	A		14		22																		
90	19	UC	A						21		35						*								31
91	3	UC	R						12		28			33			25		18		9				26
91	3	UC	A						20		44			37			29		21		11				32
91	16	UC	A											29											
91	22	UC	R							*			30				34			*					30
91	22	UC	A							*			30				35			*					30
92	16	UC	A														31								
92	22	UC	R							*			34				21			*					29
92	22	UC	A							*			35				21			*					30
93	16	UC	A														30								
93	18	U	R			11		21																	
93	22	UC	R							*			28				24			*					26
93	22	UC	A							*			31				25			*					28
94	16	UC	A														30								
94	19	UC	R						17		31														
94	19	UC	A						26		41					34				18					32
94	20	UC	R		*				19		27		34		33		29		25		17		10		26
94	20	UC	A		*				28		33		40		39		33		30		20		*		31

Table 4F (continued from p. 17, continues on p. 21)
Prevalence of smoking, females

Year	Source	Product	Frequency	Age Groups																All ages			
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		60	65	70
83	1	UC R					20			37			34			28				12			28
83	1	UC A				24			41			37			31					14			32
83	1	A A				24			41			37			31					14			32
83	2	UC R				35			44			37			29					13			31
83	2	UC A				39			48			40			32					15			34
83	4	UC *		12			33																25
83	4	U U					32																
84	4	UC *		13			33																24
84	4	U U					36																
85	3	UC R				21			28			31			29					15			28
85	3	UC R							32						33		27		20	18	13	5	
85	3	UC A				28			43			36			31					18			32
85	4	UC *					39																
85	13	UC R				21			38														
85	13	UC A										32											
86	1	UC R							31					29		23		17		9			
86	1	UC R				18			32			31			25					11			26
86	1	UC A				21			37			34			28					13			29
86	1	A A				21			37			34			28					13			29
86	2	UC R				25			34			33			26					12			28
86	2	UC A				28			39			36			29					14			31
86	4	U R				31			43														
86	4	U U					36																
87	14	UC R									29		26		30		25						27
87	14	A A									29		26		30		25						27
88	15	UC R							32			34		33		26		18		12			28
88	15	UC A							39			39		37		30		21		15			32
88	15	A A							39			39		37		30		21		15			32
88	16	UC A																					
89	17	UC R																					
89	17	UC A				24			38		36		34		33		29			17			31
90	13	UC A				21			35						31					14			28
90	16	UC A																					
90	18	U *		9		18																	
90	18	U R		14		23																	
90	18	U A		20		29																	
90	19	UC A				21			34						*								28
91	3	UC R				20			27			30			28			14		9			26
91	3	UC A				26			35			34			31			17		11			30
91	16	UC A																					
91	22	UC R						*			32				28					*			28
91	22	UC A						*			32				28					*			29
92	16	UC A																					
92	22	UC R						*			23				20					*			22
92	22	UC A						*			25				21					*			23
93	16	UC A																					
93	18	U R		14		28																	
93	22	UC R						*			23				14					*			19
93	22	UC A						*			23				15					*			19
94	16	UC A																					
94	19	UC R				19			29						*								23
94	19	UC A				29			38					31						15			29
94	20	UC R		6		21			30		30		27		24		20		12		8		23
94	20	UC A		*		30			38		37		31		27		23		16		*		28

Table 4M (continued from p. 18)
Prevalence of smoking, males

Year	Source	Product	Frequency	Age Groups																	All ages						
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70	75	80+		
94	21	U	R					13		23			24	29	34	39	44	49	54	59	64	69	74	79			
94	21	UC	A		3		12		18		31																15
94	21	UC	R			8		8																			
94	22	UC	R						*			28						20			*						25
94	22	UC	A						*			31						21			*						27
95	14	UC	R									33		32			38		23								32
95	14	UC	A									38		38			43		27								37
95	22	UC	R						*			32					32			*							29
95	22	UC	A						*			30					30			*							30
96	3	UC	R					20			30		29		31		26		20		17		11				25
96	3	UC	A					*			36		34		35				*								28
96	20	UC	R			*		21			31		31		33		28		24		17		11				26
96	20	UC	A			*		28			38		36		37		31		26		20		13				30
96	22	UC	R						*			28					21				12						24
96	22	UC	A						*			34					23				13						28
97	16	UC	A					23			35		33		35		36		23				20				
97	18	A	*			8		17																			
97	18	A	R			12		21																			
98	20	UC	R			*		19			30		29		31		26		23		16		9				24
98	20	UC	A			*		23			38		34		35		29		*		18		*				28
99	23	UC	A					20		36	42	36		31		33		26			16						27
00	23	UC	R					13		23	26	25		27		27		20			14						21
00	23	UC	A					19		31	34	32		30		32		23			18						26
00	24	UC	R			2		18			29		30		29		27		20		14		8				24
00	24	UC	A			5		25			37		36		34		31		23		15		10				28
01	23	UC	R					12		23	28	24		24		23		23			13						20
01	23	UC	A					16		31	36	33		28		28		24			14						24
02	18	A	*			4		13																			
02	18	A	R			5		16																			
02	21	UC	R			3		5																			
02	23	UC	R					12		20	24	22		23		23		19			13						19
02	23	UC	A					17		28	31	32		28		27		22			15						23
03	23	UC	R					7		16	23	23		22		23		24			12						19
03	23	UC	A					13		24	31	32		29		28		26			14						23
03	24	UC	R			1		14			24		23		25		23		17		12		7				19
03	24	UC	A			3		22			35		32		31		28		20		14		8				25
04	23	UC	R					7		18	20	24		25		18		18			9						17
04	23	UC	A					13		29	30	32		34		23		22			11						22

Source: see *Notes on sources of survey data*, p. 36
 Product: MC = manufactured cigarettes
 TC = total cigarettes (including hand-rolled)
 UC = cigarettes (type unspecified)
 A = all products

Frequency: A = all smokers (including occasional)
 R = regular or daily smokers
 U = unspecified
 * = refer to *Notes on sources of survey data*, p. 36
 All ages: relates to ages reported; as given in original source

Table 4F (continued from p. 19)
Prevalence of smoking, females

Year	Source	Product	Frequency	Age Groups														All ages										
				12	13	14	15	16	17	18	19	20	25	30	35	40	45		50	55	60	65	70	75	80+			
94	21	U	R					17		22				24	29	34	39	44	49	54	59	64	69	74	79			
94	21	UC	A	2		14		22		27																		16
94	21	UC	R	4	8	10																						
94	22	UC	R					*				26						17						*				23
94	22	UC	A					*				29						17						*				24
95	14	UC	R									33		36		20		15										25
95	14	UC	A									40		43		23		15										29
95	22	UC	R					*				31					23						*					25
95	22	UC	A					*				29					22						*					27
96	3	UC	R				21		30	27		25	25	17	13		10											22
96	3	UC	A				*		35	30		28	27		*													25
96	20	UC	R	6		23			25	26		27	23	19		13												21
96	20	UC	A	10		31			31	32		30	25	21		15		*										25
96	22	UC	R				*				25			21		15												22
96	22	UC	A				*				30			23		15												26
97	16	UC	A				39		39	34		39	26		23													
97	18	A	*	8		21																						
97	18	A	R	13		26																						
98	20	UC	R	*		25		27	28		25	24	18	14		6												21
98	20	UC	A	*		32		36	34		28	27	20	16		*												25
99	23	UC	A			26	32	34	27	29		26	22		14													23
00	23	UC	R			17	22	24	25	20		24	19		11													18
00	23	UC	A			25	31	32	31	27		30	22		13													23
00	24	UC	R	4		19		24	22		25	23	18	12		6												19
00	24	UC	A	7		27		33	28		29	26	20	14		8												24
01	23	UC	R			15	20	23	19	18		18	18		10													16
01	23	UC	A			21	28	31	26	22		22	22		12													20
02	18	A	*	5		11																						
02	18	A	R	8		14																						
02	21	UC	R	3	5																							
02	23	UC	R			16	21	20	27	19		18	17		11													16
02	23	UC	A			19	29	27	34	25		22	20		12													20
03	23	UC	R			11	17	21	16	20		16	15		8													14
03	23	UC	A			17	25	31	28	26		20	18		10													18
03	24	UC	R	2		14		22	17		20	20	16	11		6												16
03	24	UC	A	4		22		31	24		25	24	18	13		7												21
04	23	UC	R			8	15	17	19	17		17	14		9													13
04	23	UC	A			15	22	25	26	22		21	17		10													17

Source: see *Notes on sources of survey data*, p. 36
 Product: MC = manufactured cigarettes
 TC = total cigarettes (including hand-rolled)
 UC = cigarettes (type unspecified)
 A = all products

Frequency: A = all smokers (including occasional)
 R = regular or daily smokers
 U = unspecified
 * = refer to *Notes on sources of survey data*, p. 36
 All ages: relates to ages reported; as given in original source

Table 5M Number of cigarettes smoked per smoker per day, males:
selected surveys by age

Year	Source	Product	Estimated	Age Groups																		All ages
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60	65	
60	6	UC	E	1.1	1.5	2.2	3.0	3.9	4.6	5.0	4.6											
64	1	UC	E						13			17			19			19			16	18
65	1	UC	E						13			18			19			19			16	18
66	1	UC	E						14			18			19			19			16	18
67	1	UC	E						13			17			19			19			16	18
68	1	UC	E						13			17			19			19			16	18
69	1	UC	E						13			17			20			19			16	18
70	1	UC	E						13			18			20			20			17	19
71	1	UC	E						13			18			20			20			17	19
72	1	UC	E						13			18			20			20			17	19
73	1	UC	E						14			18			20			20			17	19
74	1	UC	E						14			18			20			20			17	19
75	1	UC	E						15			18			20			20			17	19
75	1	UC							13			17	18	19	19	19	19	18	16	15	13	
77	1	UC	E						14			18			20			21			18	20
78	10	UC	E						14			20			23			23			16	21
79	1	UC	E						17			18			21			21			18	20
81	1	UC	E						15			18			20			21			17	20
81	2	UC	E						16			19			21			21			18	20
83	1	UC	E						14			18			21			21			17	20
83	2	UC	E						17			19			21			21			17	21
85	3	UC	E						18			18			21			23			19	20
85	4	UC							17													
86	1	UC	E						14			17			20			21			18	20
86	2	UC	E						15			17			20			21			16	20
87	14	UC												25		24		25		23		24
88	15	UC										17			20		22		26		25	21
89	17	UC	E						14			18			20		21		19		17	19
91	3	UC	E						13			16			19			21			19	19
94	19	UC							15			17			22						18	21
94	20	UC							16			17			19		23			21		21
94	21	UC		7.0	7.3				9.6			13										10
95	14	UC												20		20		24		21		22
96	3	UC							12			17			17		21		21		20	19
96	20	UC							11			13		14	15	18		20		21		19
96	20	UC										13		16	18		21				19	19
97	18	UC							1.4			2.9										
99	23	UC							13			15	16	16	17		21		20		19	19
00	23	UC							13			14	15	16	18		19		21		22	19
01	23	UC							13			14	15	16	16		18		18		20	17
02	23	UC							13			16	16	17	16		19		19		20	18
03	23	UC							11			14	15	13	16		17		19		21	17
04	23	UC							12			12	14	13	15		17		19		19	16

Source: see *Notes on sources of survey data*, p. 36
 Product: MC = manufactured cigarettes
 TC = total cigarettes (including hand-rolled)
 UC = cigarettes (type unspecified)
 A = all products
 U = unspecified

Estimated: E = mean estimated from percentage distribution
 (see also *Consumption category estimation*, Methods p. 11, and Appendix III)
 * = refer to *Notes on sources of survey data*, p. 36
 All ages: relates to ages reported; as given in original source

Table 5F Number of cigarettes smoked per smoker per day, females:
selected surveys by age

Year	Source	Product	Estimated	Age Groups																		All ages				
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60	65		70	75	80+	
60	6	UC	E																							
64	1	UC	E																							
65	1	UC	E																							
66	1	UC	E																							
67	1	UC	E																							
68	1	UC	E																							
69	1	UC	E																							
70	1	UC	E																							
71	1	UC	E																							
72	1	UC	E																							
73	1	UC	E																							
74	1	UC	E																							
75	1	UC	E																							
75	1	UC																								
77	1	UC	E																							
78	10	UC	E																							
79	1	UC	E																							
81	1	UC	E																							
81	2	UC	E																							
83	1	UC	E																							
83	2	UC	E																							
85	3	UC	E																							
85	4	UC																								
86	1	UC	E																							
86	2	UC	E																							
87	14	UC																								
88	15	UC																								
89	17	UC	E																							
91	3	UC	E																							
94	19	UC																								
94	20	UC																								
94	21	UC																								
95	14	UC																								
96	3	UC																								
96	20	UC																								
96	20	UC																								
97	18	UC																								
99	23	UC																								
00	23	UC																								
01	23	UC																								
02	23	UC																								
03	23	UC																								
04	23	UC																								

Source: see *Notes on sources of survey data*, p. 36
 Product: MC = manufactured cigarettes
 TC = total cigarettes (including hand-rolled)
 UC = cigarettes (type unspecified)
 A = all products
 U = unspecified

Estimated: E = mean estimated from percentage distribution
 (see also *Consumption category estimation*, Methods p. 11, and Appendix III)
 * = refer to *Notes on sources of survey data*, p. 36
 All ages: relates to ages reported; as given in original source

Table 6M Number of cigarettes smoked per person per day, males:
selected surveys by age; with percentage total sales

Year	Source	Product	Age Groups																	All ages	% Total sales					
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60			65	70	75	80+	
60	6	UC	0.1	0.2	0.5	1.1	1.8	2.3	2.8	2.6															9.6	**
64	1	UC					4.7			10		12			11			5.1						9.6	67%T	
65	1	UC					4.6			11		12			11			5.1						9.9	67%T	
66	1	UC					4.8			11		12			11			5.2						9.8	67%T	
67	1	UC					4.5			10		12			11			5.2						9.6	68%T	
68	1	UC					4.5			10		11			10			5.2						9.4	69%T	
69	1	UC					4.3			9.6		11			10			5.2						9.1	69%T	
70	1	UC					4.8			9.5		11			10			5.2						9.1	67%T	
71	1	UC					4.5			9.9		11			10			5.4						9.1	67%T	
72	1	UC					4.7			9.2		11			10			5.2						8.8	65%T	
73	1	UC					4.8			9.2		10			10			5.3						8.9	65%T	
74	1	UC					4.6			9.3		10			9.4			4.9						8.6	63%T	
75	1	UC					4.3			8.6	9.1	9.7	9.7	10	11	9.6	9.4	8.2	6.4	4.5		3.0			63%T	
77	1	UC					3.9			8.2		9.6			8.8			4.8						8.0	61%T	
78	10	UC					5.0			10		11			10			5.1						9.3	73%T	
79	1	UC					4.5			7.7		9.1			8.5			4.3						7.6	61%T	
81	1	UC					3.4			7.1		8.7			8.1			3.7						7.2	58%T	
81	2	UC					6.5			8.2		9.3			8.8			4.3						8.1	66%T	
83	1	UC					2.9			6.6		8.0			7.5			3.8						6.7	59%T	
83	2	UC					5.7			7.5		8.6			8.2			4.2						7.6	67%T	
85	3	UC					3.5			5.8		7.8			8.3			4.3						6.7	63%T	
85	4	UC					6																		**	
86	1	UC					2.5			5.4		7.3			7.0			3.4						6.1	59%T	
86	2	UC					3.0			5.6		7.2			7.3			2.8						6.3	61%T	
87	14	UC									7.4	7.5		6.4	5.9									6.7	**	
88	15	UC							6		7	7		8	5		3							6.3	67%T	
89	17	UC					3.0			6.5	6.7	7.6		7.5	6.3		3.8							6.2	73%T	
91	3	UC					1.6			4.4		6.2		5.1			2.9							4.8	71%T	
94	19	UC					2.6			5.3															**	
94	20*	UC					2.9			4.5	6.4	7.1					4.0							5.6	72%T	
94	21	UC	0.2	0.9		1.7	3.9																	1.6	**	
95	14	UC									6.7	6.4		9.3	4.9									7.0	**	
96	3	UC					2.3			5.0	4.8	6.6		5.5	3.9	3.3	2.1							4.7	67%T	
96	20*	UC					2.8			5.1	5.5	6.5					3.6							5.2	71%T	
97	18	UC		0.2	0.6																				**	
99	23*	UC				3	5	7	6	5	7	5					3							5.1	77%T	
00	23	UC				1.7	3.3	3.9	4.0	4.9	5.2	4.2					3.1							4.0	64%T	
01	23	UC				1.5	3.3	4.1	3.8	3.7	4.1	4.1					2.7							3.5	58%T	
02	23	UC				1.6	3.1	3.7	3.8	3.6	4.4	3.7					2.6							3.4	64%T	
03	23	UC				0.8	2.3	3.3	3.1	3.5	3.8	4.6					2.5							3.3	60%T	
04	23	UC				0.8	2.1	2.9	3.1	3.8	3.0	3.4					1.7							2.8	54%T	

Source: see *Notes on sources of survey data*, p. 36
 Product: MC = manufactured cigarettes
 TC = total cigarettes (including hand-rolled)
 UC = cigarettes (type unspecified)
 A = all products
 U = unspecified

* = refer to *Notes on sources of survey data*, p. 36
 All ages: relates to ages reported; as given in original source
 % Total sales: estimated % of total sales of M = manufactured or T = total cigarette consumption implied by survey, sexes combined
 ** = cannot be calculated
 -- = adjusted by original author

Table 6F Number of cigarettes smoked per person per day, females:
selected surveys by age; with percentage total sales

Year	Source	Product	Age Groups																	All ages	% Total sales			
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60			65	70	75
60	6 UC									24	29	34	39	44	49	54	59	64	69	74	79	80+		
64	1 UC					2.2				5.7			6.0				4.2			0.9			4.5	67%T
65	1 UC					2.2				5.6			6.2				4.5			1.1			4.6	67%T
66	1 UC					2.4				6.3			6.5				4.9			1.0			4.9	67%T
67	1 UC					2.5				6.1			6.3				4.9			1.2			4.9	68%T
68	1 UC					2.6				6.6			6.6				4.8			1.1			4.9	69%T
69	1 UC					2.8				5.9			6.4				4.9			1.4			4.9	69%T
70	1 UC					3.0				6.5			6.6				5.0			1.4			5.1	67%T
71	1 UC					3.1				6.2			6.5				5.2			1.4			5.1	67%T
72	1 UC					3.5				6.4			6.5				5.0			1.3			5.1	65%T
73	1 UC					3.7				6.5			6.4				5.2			1.5			5.1	65%T
74	1 UC					3.6				6.5			6.4				5.0			1.6			5.1	63%T
75	1 UC					3.6				6.1	6.3	6.4	6.5	5.9	6.4	5.6	4.8	3.8	2.5	1.3	0.7			63%T
77	1 UC					3.6				6.8			6.6				5.2			1.6			5.3	61%T
78	10 UC					4.9				7.6			7.4				6.2			2.0			6.2	73%T
79	1 UC					3.7				6.8			6.5				5.1			1.4			5.2	61%T
81	1 UC					3.4				6.9			6.1				5.1			1.5			5.0	58%T
81	2 UC					5.9				8.0			6.3				5.5			1.7			5.6	66%T
83	1 UC					2.7				6.2			6.1				4.9			1.6			4.9	59%T
83	2 UC					5.5				7.2			6.7				5.1			1.8			5.5	67%T
85	3 UC					2.9				4.8			5.7				4.9			2.4			4.6	63%T
85	4 UC					7																		**
86	1 UC					2.5				5.1			5.6				4.2			1.7			4.3	59%T
86	2 UC					3.3				5.2			5.9				4.3			1.7			4.7	61%T
87	14 UC											5.3	5.1		6.4		5.2						5.5	**
88	15 UC											5	6	7		5	3		2				5.2	67%T
89	17 UC									2.7		4.8	5.7	5.5		5.8	4.3		2.2			4.8	73%T	
91	3 UC									2.8		3.5		5.0			4.9		1.4			4.2	71%T	
94	19 UC									2.3		4.6				*						3.9	**	
94	20* UC									2.4		3.9	4.8		4.8				2.5			3.9	72%T	
94	21 UC	0.1	0.8							2.1		3.0										1.5	**	
95	14 UC												5.1		6.2		3.3		2.7			4.3	**	
96	3 UC									2.4		3.8	3.9		4.6		4.5		2.9	2.3	1.3	3.5	67%T	
96	20* UC									2.5		3.3	4.1		4.5				2.4			3.6	71%T	
97	18 UC		0.1							0.9													**	
99	23* UC									3	4	5	4	4	4	4			2			3.7	77%T	
00	23 UC									1.8	2.9	3.0	3.0	2.6	3.8	3.1			1.6			2.6	64%T	
01	23 UC									1.7	2.5	3.0	2.3	2.3	3.2	2.8			1.5			2.4	58%T	
02	23 UC									1.8	2.5	2.4	3.2	2.4	3.0	3.0			1.7			2.4	64%T	
03	23 UC									1.3	2.0	2.4	1.7	2.8	2.2	2.4			1.2			2.0	60%T	
04	23 UC									0.7	2.1	2.0	2.2	2.0	2.6	2.3			1.2			1.8	54%T	

Source: see *Notes on sources of survey data*, p. 36
 Product: MC = manufactured cigarettes
 TC = total cigarettes (including hand-rolled)
 UC = cigarettes (type unspecified)
 A = all products
 U = unspecified

* = refer to *Notes on sources of survey data*, p. 36
 All ages: relates to ages reported; as given in original source
 % Total sales: estimated % of total sales of M = manufactured or T = total cigarette consumption implied by survey, sexes combined
 ** = cannot be calculated
 -- = adjusted by original author

Table 7M Number of cigarettes smoked per person per day, sales-adjusted, males: selected surveys¹ by age; with percentage total sales

Year	Source	Product	Age Groups																All ages	% Total sales			
			12	13	14	15	16	17	18	19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59			60 - 64	65 - 69	70 - 74
64	1	UC				7.0				15			17			16				7.5		14	67%T
65	1	UC				6.8				16			18			17				7.5		15	67%T
66	1	UC				7.1				16			18			16				7.7		15	67%T
67	1	UC				6.7				15			18			16				7.6		14	68%T
68	1	UC				6.5				15			17			15				7.6		14	69%T
69	1	UC				6.2				14			16			15				7.6		13	69%T
70	1	UC				7.1				14			16			15				7.7		14	67%T
71	1	UC				6.7				15			16			15				8.0		14	67%T
72	1	UC				7.2				14			16			15				8.0		14	65%T
73	1	UC				7.3				14			16			16				8.2		14	65%T
74	1	UC				7.3				15			16			15				7.7		14	63%T
75	1	UC				6.9				14	15	16	16	16	17	15	15	13	10	7.2	4.8		63%T
77	1	UC				6.3				13			16			14				7.9		13	61%T
78	10	UC				6.7				14			15			14				6.9		13	73%T
79	1	UC				7.3				13			15			14				7.1		13	61%T
81	1	UC				5.8				12			15			14				6.3		12	58%T
81	2	UC				9.8				12			14			13				6.4		12	66%T
83	1	UC				5.0				11			14			13				6.5		11	59%T
83	2	UC				8.5				11			13			12				6.3		11	67%T
85	3	UC				5.7				9.2			12			13				6.8		11	63%T
86	1	UC				4.2				9.1			12			12				5.8		10	59%T
86	2	UC				4.8				9.2			12			12				4.6		10	61%T
88	15	UC								8			10			10			5			9.4	67%T
89	17	UC				4.1				8.9	9.1		10			10	8.5			5.1		8.5	73%T
91	3	UC				2.2				6.1			8.8			7.2				4.1		6.8	71%T
94	20*	UC				4.1				6.2	8.9		9.8						5.6			7.8	72%T
96	3	UC				3.4				7.4	7.3		9.9	8.3		5.8	4.9		3.1			7.0	67%T
96	20*	UC				4.0				7.2	7.8		9.1						5.1			7.3	71%T
99	23*	UC				3				7	9	8	7			9	7			4		6.7	77%T
00	23	UC				2.6				5.2	6.2	6.3	7.7			8.1	6.6			4.9		6.3	64%T
01	23	UC				2.6				5.6	7.0	6.5	6.3			7.0	7.1			4.6		5.9	58%T
02	23	UC				2.5				4.9	5.8	6.0	5.6			6.9	5.8			4.1		5.3	64%T
03	23	UC				1.3				3.8	5.5	5.1	5.8			6.3	7.5			4.1		5.4	60%T
04	23	UC				1.5				3.9	5.3	5.8	6.9			5.5	6.3			3.1		5.1	54%T

1 Based on those surveys in Table 6 with data for both sexes and age range at least 21-64 (see *Cigarette consumption per person*, Methods p. 11)

Source: See *Notes on sources of survey data*, p. 36
 Product: MC = manufactured cigarettes
 TC = total cigarettes (including hand-rolled)
 UC = cigarettes (type unspecified)
 A = all products
 U = unspecified

* = refer to *Notes on sources of survey data*, p. 36
 All ages: relates to ages reported; as given in original source
 % Total sales: Adjustment factor used, estimated % of total sales of M = manufactured or T = total cigarette consumption implied by survey, sexes combined
 -- = adjusted by original author

Table 7F Number of cigarettes smoked per person per day, sales-adjusted, females: selected surveys¹ by age; with percentage total sales

Year	Source	Product	Age Groups																	All ages	% Total sales					
			12	13	14	15	16	17	18	19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64			65 - 69	70 - 74	75 - 79	80+	
64	1 UC					3.3				8.4							6.2					1.4		6.7	67%T	
65	1 UC					3.3				8.4							6.7					1.6		6.9	67%T	
66	1 UC					3.5				9.3							7.2					1.5		7.3	67%T	
67	1 UC					3.7				9.0							7.3					1.7		7.2	68%T	
68	1 UC					3.7				9.5							6.9					1.6		7.1	69%T	
69	1 UC					4.0				8.6							7.1					2.0		7.1	69%T	
70	1 UC					4.5				9.7							7.4					2.0		7.5	67%T	
71	1 UC					4.5				9.2							7.7					2.1		7.6	67%T	
72	1 UC					5.4				9.9							7.7					2.1		7.9	65%T	
73	1 UC					5.7				10							8.0					2.3		7.9	65%T	
74	1 UC					5.7				10							7.9					2.5		8.1	63%T	
75	1 UC					5.8				9.8	10	10	10	9.4	10	9.0	7.7	6.1	4.0	2.1	1.1				63%T	
77	1 UC					5.9				11							8.4					2.7		8.6	61%T	
78	10 UC					6.6				10							8.4					2.7		8.5	73%T	
79	1 UC					6.1				11							8.4					2.4		8.6	61%T	
81	1 UC					5.8				12							8.7					2.6		8.5	58%T	
81	2 UC					9.0				12							8.3					2.5		8.4	66%T	
83	1 UC					4.6				10							8.3					2.7		8.3	59%T	
83	2 UC					8.2				11							7.6					2.7		8.2	67%T	
85	3 UC					4.7				7.7							9.1					3.8		7.4	63%T	
86	1 UC					4.2				8.5							9.4					2.9		7.3	59%T	
86	2 UC					5.3				8.5							9.6					2.7		7.7	61%T	
88	15 UC									8							9	10	8	5	3			7.8	67%T	
89	17 UC					3.6				6.5	7.8						7.5	7.9	5.9			3.1		6.5	73%T	
91	3 UC					4.0				5.0							7.0					6.9		5.9	71%T	
94	20* UC					3.3				5.4	6.6						6.7					3.5		5.4	72%T	
96	3 UC					3.6				5.6	5.9						6.9	6.7				4.4	3.5	2.0	5.2	67%T
96	20* UC					3.5				4.7	5.8						6.3					3.4		5.0	71%T	
99	23* UC					4	5			6	5						6	5				3		4.8	77%T	
00	23 UC					2.8	4.6			4.7	4.7	4.1					5.9	4.8				2.5		4.1	64%T	
01	23 UC					2.8	4.3			5.1	4.0	4.0					5.6	4.8				2.6		4.1	58%T	
02	23 UC					2.8	4.0			3.7	5.0	3.7					4.8	4.6				2.6		3.7	64%T	
03	23 UC					2.1	3.3			4.0	2.8	4.6					3.7	3.9				2.0		3.2	60%T	
04	23 UC					1.3	3.8			3.6	4.1	3.6					4.9	4.2				2.3		3.3	54%T	

1 Based on those surveys in Table 6 with data for both sexes and age range at least 21-64 (see *Cigarette consumption per person*, Methods p. 11)

Source: See *Notes on sources of survey data*, p. 36
 Product: MC = manufactured cigarettes
 TC = total cigarettes (including hand-rolled)
 UC = cigarettes (type unspecified)
 A = all products
 U = unspecified

* = refer to *Notes on sources of survey data*, p. 36
 All ages: relates to ages reported; as given in original source
 % Total sales: Adjustment factor used, estimated % of total sales of M = manufactured or T = total cigarette consumption implied by survey, sexes combined
 -- = adjusted by original author

Table 8 Estimated¹ prevalence of smoking and estimated¹ number of cigarettes per person per day (unadjusted and sales-adjusted): summary of Tables 4, 6 and 7. Males and females aged 15 years and over

Year	Source ²	Product ³	Prevalence ⁴				Number of cigarettes										
			Manufactured cigarettes		Total cigarettes ⁵		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸		Total cigarettes ⁹			
			M	F	M	F	M	F	M	F	Total sales %	Manufactured cigarettes number/person/day	Total cigarettes number/person/day	M	F		
1964	1	UC			54	30					9.6	4.4	67			14.2	6.5
1965	1	UC			55	31					9.9	4.6	67			14.7	6.8
	1	UC			58	35											
1966	1	UC			54	32					9.8	4.8	67			14.6	7.2
1967	1	UC			53	32					9.6	4.8	68			14.2	7.1
1968	1	UC			52	32					9.3	4.9	69			13.5	7.1
1969	1	UC			50	32					9.1	4.8	69			13.2	7.0
1970	1	UC			49	32					9.1	5.0	67			13.5	7.5
	1	UC			52	35											
1971	1	UC			48	32					9.1	5.0	67			13.5	7.5
1972	1	UC			47	32					8.8	5.0	65			13.6	7.8
1973	1	UC			48	32					8.9	5.1	65			13.6	7.9
1974	1	UC			45	31					8.5	5.1	63			13.5	8.0
	1	UC			49	35											
1975	1	UC			43	31					8.2	5.0	63			13.1	8.0
	1	UC			43	31											
	1	UC			47	35											
1977	1	UC			41	31					7.9	5.2	61			12.9	8.5
	1	UC+A			44	35	49	35									
1978	10	UC			44	35					9.2	6.1	73			12.5	8.3
	10	UC+A			47	39	50	39									
1979	1	UC			38	30					7.6	5.2	61			12.5	8.5
	1	UC+A			42	33	46	33									
1981	1	UC			37	29					7.1	5.0	58			12.2	8.5
	1	UC+A			40	32	44	32									
	2	UC			41	32					8.1	5.6	66			12.3	8.5
	2	UC			45	35											
1983	1	UC			34	28					6.7	4.8	59			11.3	8.1
	1	UC+A			37	31	40	31									
	2	UC			37	32					7.5	5.5	67			11.2	8.2
	2	UC			41	35											
1985	3	UC			33	27					6.8	4.6	63			10.9	7.4
	3	UC			35	29											
	3	UC			37	32											
	13	UC			36	32										(10.6	7.7)

Table 8 (continued)

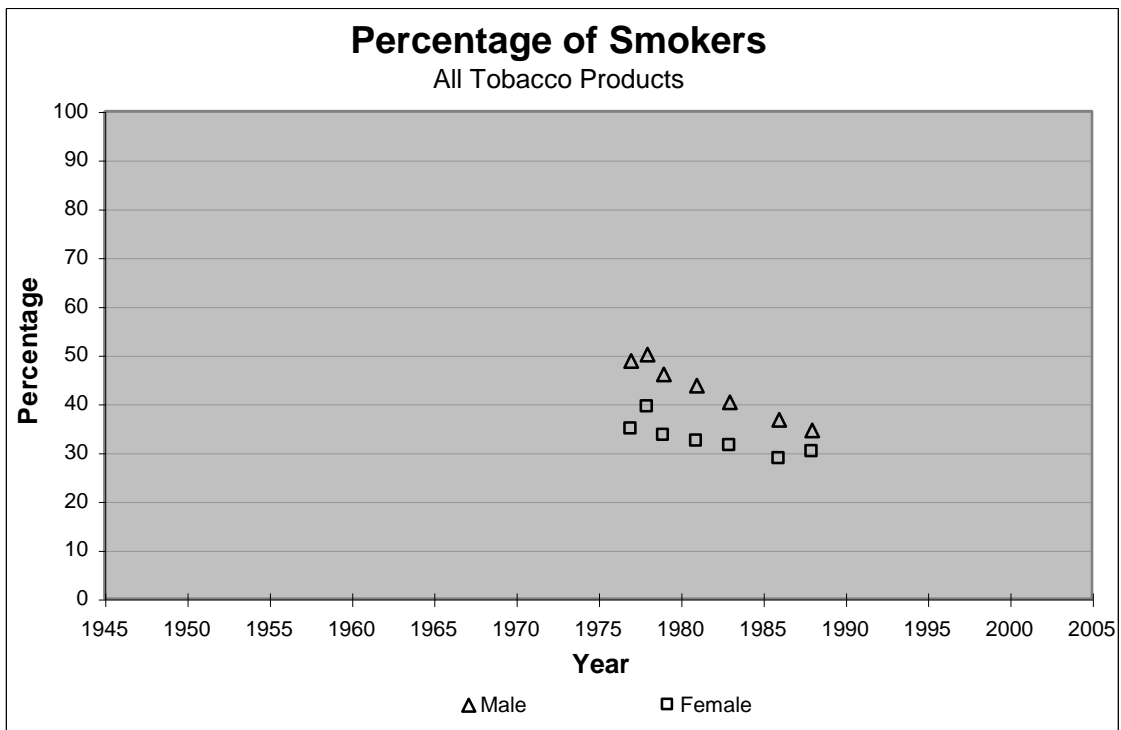
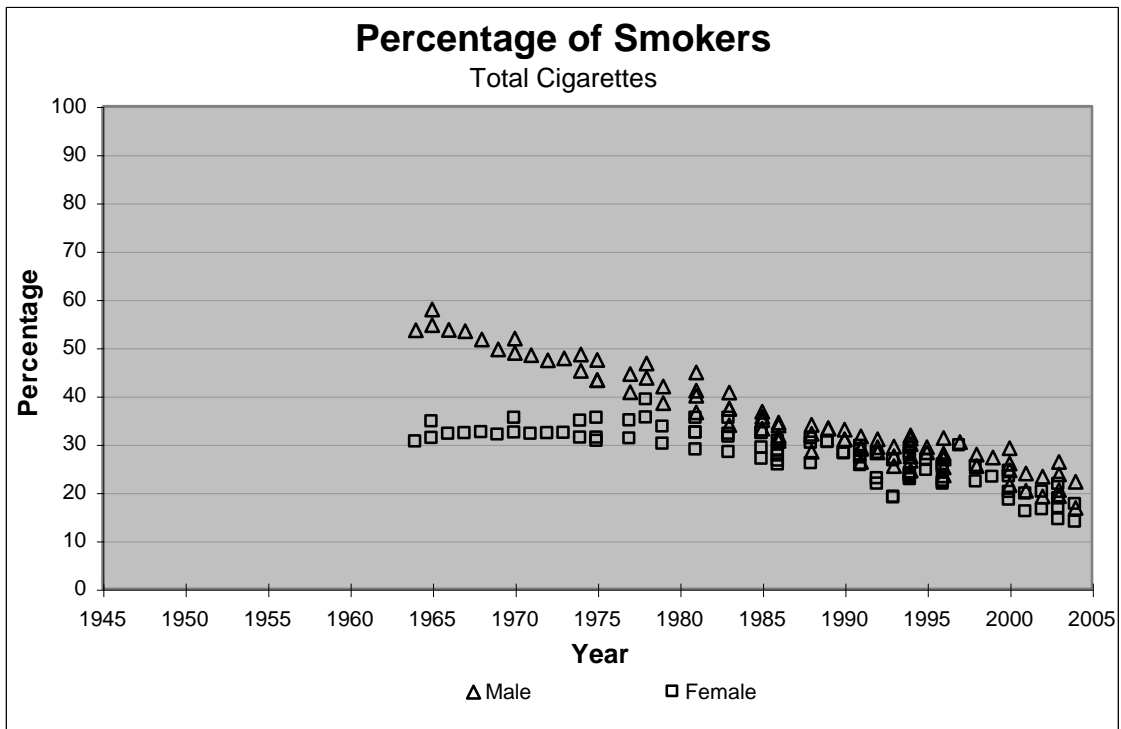
Year	Source ²	Product ³	Prevalence ⁴						Number of cigarettes							
			Manufactured cigarettes		Total cigarettes ⁵		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸				
			M	F	M	F	M	F	number/ person/day	Total sales %	Manufactured cigarettes number/ person/day	Total cigarettes ⁹ number/ person/day				
		M	F	M	F	M	F	M	F	M	F	M	F			
1986	1	UC			32	26			6.1	4.3	59			10.2	7.2	
	1	UC			31	26										
	1	UC+A			34	28	37	29								
	2	UC			31	27			6.1	4.5	61			10.0	7.4	
	2	UC			34	31										
1988	15	UC			28	26			5.9	4.7	67			8.8	7.1	
	15	UC+A			32	30	35	30								
	16	UC			34	31								(9.2	6.7)	
1989	17	UC			33	30			6.2	4.6	73			8.4	6.3	
	17	UC			33	30										
1990	13	UC			31	28								(8.2	5.9)	
	16	UC			33	28								(8.4	5.7)	
	19	UC			31	28								(8.2	5.9)	
1991	3	UC			26	25			4.9	4.1	71			6.9	5.7	
	3	UC			32	29										
	16	UC			29	27								(7.3	5.4)	
	22	UC			29	27								(7.3	5.4)	
	22	UC			29	28										
1992	16	UC			31	28								(7.3	5.3)	
	22	UC			28	22								(7.8	4.8)	
	22	UC			29	23										
1993	16	UC			30	27								(6.9	5.0)	
	22	UC			25	19								(7.5	4.4)	
	22	UC			27	19										
1994	16	UC			30	28								(7.5	5.6)	
	19	UC				23										
	19	UC			32	29				3.9				(7.6	5.6)	
	20	UC			27	23			5.6	3.9	72			7.8	5.4	
	20	UC			31	28										
	22	UC			24	23								(7.6	5.6)	
	22	UC			27	24										
1995	22	UC			28	25								(7.0	4.9)	
	22	UC			29	27										
1996	3	UC			25	22			4.7	3.5	67			7.1	5.3	
	3	UC			28	25										
	20	UC			27	22			5.2	3.6	71			7.3	5.0	
	20	UC			31	25										
	22	UC			24	22								(7.1	5.2)	
	22	UC			27	26										
1997	16	UC			30	30								(6.6	5.1)	
1998	20	UC			25	22								(6.9	4.8)	
	20	UC			28	25										

Table 8 (continued/2)

Year	Source ²	Product ³	Prevalence ⁴						Number of cigarettes						
			Manufactured cigarettes		Total cigarettes ⁵		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸			
			M	F	M	F	M	F	number/person/day		Total sales %	Manufactured cigarettes number/person/day		Total cigarettes ⁹ number/person/day	
									M	F		M	F	M	F
1999	23	UC			27	23			5.0	3.7	77			6.6	4.8
2000	23	UC			22	18			4.1	2.6	64			6.4	4.2
	23	UC			26	23								(6.4	4.2)
	24	UC			25	20									
	24	UC			29	24									
2001/10	23	UC			20	16			3.5	2.4	58			6.0	4.1
	23	UC			24	20									
2002/10	23	UC			19	16			3.4	2.4	64			5.4	3.8
	23	UC			23	20									
2003/10	23	UC			19	14			3.3	2.0	60			5.5	3.3
	23	UC			24	19								(5.3	3.5)
	24	UC			20	17									
	24	UC			26	22									
2004/10	23	UC			17	14			2.7	1.9	54			5.0	3.5
	23	UC			22	17									

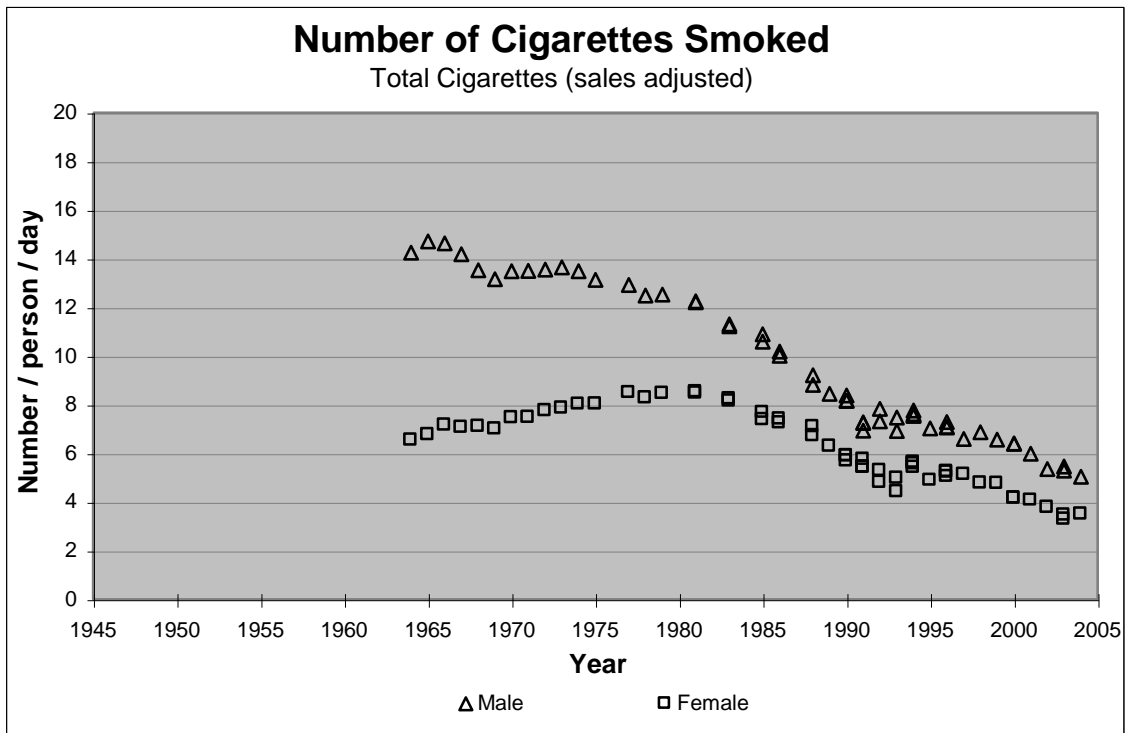
- 1 Surveys covering an age range of at least 21-64 are included. Any gaps in the data for ages 15-20 and 65 years and over are filled in by assumed extensions to the age distribution, given in *Notes on sources of survey data*, p. 36. Method: see *Summary of adult smoking*, Methods p. 13. Exceptionally, calculation is based on the *All ages* value from Table 4 in those surveys for which some age-specific data are not available (age groups marked as * in Table 4)
- 2 See *Notes on sources of survey data*, p. 36
- 3 Product: MC = manufactured cigarettes, TC = total cigarettes (including hand-rolled), UC = cigarettes (type unspecified), A = all products, U = unspecified. Frequency of smoking is indicated by: regular or daily smokers in normal type, all smokers (including occasional) in bold, unspecified in italics
- 4 From Table 4
- 5 This column includes prevalence of smoking classified as UC = cigarettes (type unspecified)
- 6 This column includes prevalence of smoking classified as U = unspecified product
- 7 From Table 6
- 8 From Table 7, except data in parentheses, which are derived from the prevalence of smoking from Table 4 as described in *Summary of adult smoking*, Methods p13
- 9 Number of cigarettes classified as UC = cigarettes (type unspecified) has been adjusted to total cigarette sales and included in this column
- 10 Calculations based on 2000 population

Figure 3 Estimated prevalence of smoking of (i) cigarettes and (ii) all tobacco products; by year of survey. Males and females aged 15 years and over



Source: Table 8
See also customisable version of Figure 3 in the Excel workbook

Figure 4 Estimated number of cigarettes smoked per person per day, sales-adjusted; by year of survey. Males and females aged 15 years and over



Source: Table 8

Notes

Notes on sources of sales data

The data presented in the tables and figures were obtained from several sources, details of which are given below, together with estimations and related assumptions. Full citations of the sources are given on p. 41 under *References*.

Sales data before 1974

RP6 (Beese (1968), Beese (1972), Lee (1975))

Data by weight, originally given to nearest 100 000 pounds, have been converted to tonnes and given to the nearest 10 tonnes (100 000 lbs = 45.359 tonnes). Where weight conversion factors have been quoted in RP6, the weights have been re-calculated without rounding and then converted to tonnes.

Notes as given in RP6:

(a) Details of the quantities of tobacco products consumed were obtained from the following sources:

1920-48 *Historical Series of Tobacco Statistics*, Agricultural Division, Dominion Bureau of Statistics, Ottawa, 1950.

1949-57 *Canadian Statistical Review*, Dominion Bureau of Statistics, Ottawa, 1957 and 1958.

1958-67 *Tobacco and Tobacco Products Statistics Quarterly*, formerly *Quarterly Stocks and Consumption of Unmanufactured Tobacco*, Industry Division, Dominion Bureau of Statistics.

1968-73 *Production and Disposition of Tobacco Products*, Manufacturing and Primary Industries Division, Statistics Canada (formerly known as Dominion Bureau of Statistics).

(b) Cigarette consumption in pounds weight was estimated from the number of cigarettes consumed by using a conversion factor of 2.4 lbs per 1 000. The conversion factor used for cigars was 12.5 lbs per 1 000 for the years up to and including 1963, thereafter a figure of 10 lbs per 1 000 was used.

Canadian Statistical Review sales data quoted by Todd (1987) for 1973 include 7 363 tonnes of “fine-cut tobacco intended for hand-rolled cigarettes” and 638 tonnes of “other cut tobacco”; these data have not been included in Tables 1.1 or 1.2.

Sales data for 1974 onwards

Cigarettes:

1974-1979: Kaiserman and Rogers (1992)

Domestic manufactured cigarette sales. This takes no account of imported cigarettes and so may underestimate consumption. However, Health Canada (2005c) give data for the early 1980s suggesting that imports were minimal in that period.

1980-2010: Health Canada (2011)

Total of imported and domestic cigarette sales.

These sales data relate to legal sales. We have used the total of legal and smuggled cigarette sales (where available – see below) to estimate the total year’s cigarette consumption.

Data for cigarettes were given as numbers and have been converted to weight using the conversion factors shown in the table below:

Years	Conversion factor (g / cigarette)	Source
1974-1977	0.9	National Clearinghouse on Tobacco and Health (NCTH) (1996)
1978-1990	0.8	NCTH (1996)
1991	1.0	Boisvenue (2011)
1992-2003	0.70	Boisvenue (2011)
2004-2008	0.60	Boisvenue (2011)
2009-2010	0.66	Boisvenue (2011)

Smuggled cigarettes: Stephens (1995)

In the early 1990s smuggling of cigarettes into Canada became a problem. There is little evidence of organized smuggling before 1986 but by 1993 some sources estimate that smuggled cigarettes constituted almost 40% of the cigarette market. Following increases in federal and provincial taxes (1989-1992) there was a large difference in cigarette retail prices between Canada and the USA. It is thought that Canadian-blend cigarettes were being exported to the USA and then re-imported illegally—between 1990 and 1992 exports of tobacco products increased by 384%. There is also evidence of increasing smuggling of US-blend cigarettes into Canada. In February 1994 anti-smuggling measures were implemented and the federal tobacco tax was cut by \$5.00 a carton in an effort to reduce the scale of illegal importation. In that year exports of cigarettes decreased by 90%. The export figure for 1996 is said to be in line with the US domestic market for Canadian cigarettes (Kondro (1994), Crichton (1998), Galbraith and Kaiserman (1997)). No figures were available for the number of smuggled cigarettes for the years after 1994 and so our sales figure for those years are likely to underestimate consumption.

Cigars:

1974-1989: Statistics Canada (1990)

Domestic sales of cigars calculated from monthly sales data.

1990-2005: Moran and Kaiserman (2006b), Kaiserman (2006)

2006-2010: Boisvenue (2011)

Sales of cigars dipped dramatically between 1994 and 1995 because of changes to the taxation of cigarettes. Little cigars (similar in weight to cigarettes) had become increasingly popular as the tax on cigarettes increased (note that cigars are taxed by weight and so a substantial tax differential may exist between little cigars and cigarettes). When cigarette tax was reduced in early 1994 many smokers of little cigars switched back to cigarettes.

Data for cigars were given in numbers. We converted them to weight assuming an average of 4.5 g per cigar for 1974-1979 (based on RP6 data for 1970-1973) and 3.7 g per cigar for 1980-2010 (based on Anonymous (1990) data for 1989). This may overestimate in recent years due to the increasing popularity of little cigars (especially in years when cigarette tax was high).

Fine-cut tobacco:

1974-1985: Todd (1987) quoting Canadian Statistical Review

Converted from pounds to tonnes by Todd (1987).

1986-2010: Health Canada (2011)

The data were given in kilograms.

Other cut tobacco: Todd (1987) quoting Canadian Statistical Review.

Converted from pounds to tonnes by Todd (1987).

Smokeless tobacco:

1974-1988: no data available

According to Wyckham (1999), domestic production peaked at 587 tonnes in 1980 and ceased in 1987 when manufacturing was moved to the United States, but no further details are available. Our estimates for tonnes of all tobacco products before 1989 will therefore be underestimates.

1989-1996: Wyckham (1999)

Smokeless tobacco imports. For 1989 to 1996 sales data are not available; the data quoted are import figures and so are subject to variations due to increasing and decreasing stock levels.

1997-2005: Moran and Kaiserman (2006b)

“Sales” data, not otherwise specified.

2006-2010: Boisvenue (2011)

“Sales” data, not otherwise specified.

Estimates of numbers of hand-rolled cigarettes for 1955-2010

1955-1964, 1966, 1967: Todd (1987)

We follow Todd / Millar and estimate number of hand-rolled cigarettes as 81% of pipe and hand-rolling tobacco sales at 1 g per cigarette.

1965, 1968-1979: Millar (1983), Todd (1987)

We use Todd/Millar’s estimates that quote Canadian Statistical Review data for “fine-cut tobacco sales intended for cigarettes” and convert these to numbers of hand-rolled cigarettes at 1 g per cigarette.

1980-2010: Boisvenue (2011), Health Canada (2011)

Numbers of hand-rolled cigarettes were estimated using the sales in kgs given by Health Canada (2011) and the conversion factor given by Boisvenue (2011), namely 1 g per cigarette for 1980-1991 and as shown above thereafter.

Estimates of hand-rolled cigarette consumption in the latest available year were also given in the introductions to successive editions of RP6:

Year	Annual (millions)	Number/ adult/day	As a percentage of Millar/Todd estimate
1966	6 160	1.3	88
1970	6 120	1.1	88
1973	6 723	1.2	91

Plain/Filter cigarette sales

1966-1981: Maxwell, Jr. (Successive years)

1986-1987: Canadian Tobacco Manufacturers' Council (1987, 1988)

1997-1998: Maxwell, Jr. (1998)

Tar, nicotine and CO machine yields of cigarettes

1968-1981: Millar (1983), Rickert and Robinson (1981) and Canadian Tobacco Manufacturers' Council

1989-1999: Moran and Kaiserman (2006b)

The data for 1989-1999 are sales-weighted average machine yields of tar, nicotine and carbon monoxide (CO) that we calculated from the brand data provided by Health Canada. The data supplied related to the brands sold by the three main tobacco companies and take into account over 65% (and for most years over 99%) of cigarette sales. Yields were measured by the Canadian national standard until 1991 when the revised ISO standard was adopted; this differed mainly in the butt length specified (Baker (2002)).

1968-1995: Rickert (1995)

These data (under the headings 'Average of 7 brands' 'Tar' and 'Nicotine') are the result of analyses on seven popular brands of Canadian cigarettes which, together, make up approximately 25% of sales. The data are not sales-weighted and in some years values are not available for each of the seven brands. However, these figures provide a reasonably consistent measure of the changes over time.

Delarue (1961) reported that the tar yield was in the range 10-47 mg per cigarette in 1960.

Kaiserman and Rickert (1992) tested 31 brands of hand-rolling cigarette tobacco, bought during December 1989, and reported that the mean yield and ranges of yields per cigarette were:

	Mean (mg)	Range (mg)
Tar	15.47	14.64 - 16.29
Nicotine	1.14	0.96 - 1.44
Carbon monoxide	17.69	16.53 - 18.79

These were prepared and smoked under standard conditions. It was also found that yields varied considerably when a standard blend of tobacco was tested using various brands of tubes and filters.

Notes on sources of survey data

Each source of survey data—either an individual survey or a series of surveys repeated over a number of years—is cited by a source number. This number is shown in the tables and corresponds to the source numbers given below, where details of the source publication and of the survey methodology are given. Full citations of the sources are given on p. 41 under *References*.

Source number

1,2 Health and Welfare Canada (1976, 1979, 1980), Millar (1983), Thomson (1984), Jossa (1985), Stephens (1988), Collishaw (1990), Maxwell and Hirdes (1993)

- a. Labour Force Survey Supplements. Conducted annually (in December), using one-third of panel from monthly Labour Force Survey. Sample size around 17 000 (except 30 799 in 1986). Representative of 97-98% of population, excluding those in institutions, Indian reserves, and the Northern Territories. Sampling based on households and telephone interviews with extensive use of proxy respondents.
- b. Data given as source 2 are by Stephens (1988) using self-respondents only. (Proxy interviews excluded were 47% (1981), 50% (1983) and 26% (1986) of interviews.) The prevalence of smoking, particularly by teenagers, may be underestimated by proxy interviews, which could not be distinguished in earlier years.
- c. Regular cigarette smokers: smoked cigarettes usually daily.
- d. The percentage specifying hand-rolled cigarettes as their main brand type smoked was consistently 7-8% for males and 4-5% for females in the period 1977-1983. In 1986 the age/sex distribution was:

	15-19	20-24	25-44	45-64	65+	15+
Males	6.1	6.2	6.9	14.8	16.1	9.6
Females	5.7	7.3	7.2	9.6	9.3	7.8

- e. For some years, data for a particular product and frequency are available in several different breakdowns by age. These are presented in Table 4 if this aids comparisons between years. This may result in several different estimates for adult (age 15+) prevalence appearing in Table 8.
- f. Consumption category estimation based on 1-10, 11-25, and 26+ cigarettes/smoker/day.
- g. In calculations (i.e. combining smokers of cigarettes and other products, consumption category estimation) percentages indicated in the original source as being based on numbers too small to be reliable have been taken as zero.

3 Stephens (1988), Maxwell and Hirdes (1993), Statistics Canada (1994), Gilmore (2000)

- a. General Social Survey. Questionnaire and population very similar to source 1, but only one respondent per household. Telephone interviews for persons age under 65, face-to-face interviews for persons age 65 years and over.

Year	Sample size	Response rate
1985	11 200	84%
1991	11 924	80%
1996	12 756	85%

- b. The *All ages* values refer to ages 15+; age-specific data are not available for the age groups marked *.
- c. For some years, data for a particular product and frequency are available in several different breakdowns by age. These are presented in Table 4 if this aids comparisons between years and may result in several different estimates for adult (age 15+) prevalence appearing in Table 8.
- d. Consumption category estimation based on 1-10, 11-25 and 26+ cigarettes/smoker/day.

4 Canadian Gallup Poll, cited by Canadian Gallup Poll Limited (1985), Millar (1985), Stephens (1988)

- a. Conducted annually (in February) for the Health Promotion Directorate, primarily to assess reaction to the Directorate's media campaigns. Self-completed questionnaire at home. Parent's consent sought for participants under 16 years; parent invited to leave the interview room. Sample size about 2 000, over-weighted to the 12-19 age group, response rate about 65%.
- b. Smokers marked as frequency *: smoked daily.

- 5 Best and Walker (1964)**
- Baseline of prospective study among Department of Veterans Affairs pensioners, excluding those in hospital. Conducted September 1955-June 1956. Mailed questionnaire, 57% response, of which 59% (69 891) were males with adequate smoking data. Not representative of the Canadian population.
 - Age distribution of sample reflects ages of enlisted men in the two World Wars and the Korean War. Ages 35-39 and 60-64 most heavily represented.
- 6 Morison and Medovy (1961), Morison *et al* (1964) and Hanley and Robinson (1976), quoting Morison (1968) (no details of reference)**
- Surveys in Winnipeg, 1960, 1963 and year unknown (assumed 1967). Broader age bands are approximate, corresponding to school grades 7-9 and 10-12.
 - Sample size (1960) 17 329, (1963) 14 140, (1967) unknown.
 - Regular smokers: smoked more than one cigarette a week/‘serious smokers’.
 - Consumption category estimation based on weekly consumption of 1-4, 5-9, 10-19, 20-39 and 40+ cigarettes/smoker.
- 7 Hanley and Robinson (1976), quoting Playfair (1968) (no details of reference)**
- Survey in Kenora, year not stated.
 - Regular smokers: ‘serious smokers’.
- 8 Hanley and Robinson (1976), Millar (1985)**
- National studies carried out in 1971-1972 and 1978. Not a probability sample—distributed to schools through Home and School and Parent-Teacher Federation members, representing rural/urban and social structure. Sample size of 12-19-year-olds (1971) 52 129, (1978) 71 770.
 - Smokers marked as frequency *: smoked daily. Regular smokers: smoked 1 or more cigarettes weekly. All smokers: smoked 1 or more cigarettes weekly or had smoked in the last 4 weeks.
- 9 Hanley (1973)**
- Waterloo School Survey. Year not stated.
- 10 Canada Health Survey (1981)**
- Canada Health Survey. A national household survey using a self-completed questionnaire for persons aged 15+. Sample size 5 662, response rate 86%.
 - Regular smokers: smoked cigarettes daily.
 - Consumption category estimation based on 1-12, 13-22, 23-32 and 33+ cigarettes/smoker/day.
- 11 Collishaw (1990)**
- Public school students aged 8-20. Sample size (males) 53 539, (females) 51 610.
 - Regular smokers: smoked daily in the last 4 weeks. All smokers: smoked in the last 4 weeks, or had smoked at some time but whose current status is unknown.
 - Results from this survey have also been published by Brown *et al* (1978) using imputed estimates, which assign subjects with incomplete data.
- 12 Millar (1985)**
- Canada Fitness Survey. A national household survey using a self-completed questionnaire. Sample size of 12-19-year-olds 2 934.
 - Smokers marked as frequency *: smoked daily.
- 13 Stephens (1988), Health Canada (1999b, 2000)**
- Health Promotion Survey. Questionnaire and population very similar to source 1, but only one respondent per household. Telephone interviews. Sample size (1985) 11 164, (1990) 13 778.
- 14 Tolonen *et al* (2000), Kuulasmaa *et al* (1998), Wolf *et al* (1998), Molarius *et al* (1999)**
- Regional survey using interviewer-administered questionnaires generally carried out in three phases, forming part of WHO MONICA Project. In Canada phase 2 was not carried out:

Region	Phase	Participation rate (%)		Sample used		Date
		Males	Females	Males	Females	
Halifax County	1	67	67	459	458	Sept 1985-Nov 1988
	3	69	68	355	375	May 1995-Nov 1995

- b. *All ages* column relates only to age 35-64 and is standardized to world population
- c. Regular cigarette smokers: smoked cigarettes daily. All smokers: smoked cigarettes daily or occasionally, or smoked 1 g pipe tobacco or 1 cigar per week
- d. For phase 1, there are minor discrepancies between the data shown in Table 4 and equivalent data taken from WHO (1989) used in earlier editions of this report.

15 Stachenko *et al* (1992)

- a. Canadian Heart Health Surveys Research Group surveys of non-institutionalized people aged 18-74 in nine provinces. Probability sample. Questions on smoking were a subset of those used by the Labour Force Survey. Sample size 20 585, response rate 78%.
- b. Results presented are average of surveys conducted in nine provinces between 1986 and 1990, age-standardized to the 1986 population of Canada.
- c. Assumed extensions to age distribution for percentage smokers and for cigarettes/person/day are shown in the extended versions of Tables 4 and 6 respectively in the Excel tables workbook.

16 Stephens (1995), Buske (1998)

- a. Canada Health Monitor surveys of people aged 15+. Sample size approximately 2 500.
- b. Smokers: 'smoke cigarettes now'.

17 Eliany and Courtemanche (1992), Maxwell and Hirdes (1993)

- a. National Alcohol and Other Drugs Survey. Survey of non-institutionalized people aged 15+. Sample size 11 634.
- b. Consumption category estimation based on 1-10, 11-25 and 26+ cigarettes/smoker/day (Eliany and Courtemanche (1992)). Calculation of cigarettes per person based on percentage of current smokers (daily and occasional) and number of cigarettes per daily smoker but, as only 1% of people surveyed were occasional smokers this makes little difference.

18 King and Coles (1992), King *et al* (1996), Currie *et al* (2000, 2004)

- a. Part of the HBSC (Health Behaviour in School-Aged Children) Study, a collaborative cross-national research study sponsored by the WHO. School classes or schools were randomly selected, targeting age groups 11 (not presented here), 13 and 15.
- b. The Canadian part of the 1989-1990 survey was carried out during February-May 1990. The recommended sample size was 1 500 in each age group. The actual total sample size was 5 565.

Target age	Mean age
13	14.1
15	16.0

- c. The Canadian part of the 1993-1994 survey was carried out during October 1993-January 1994. The target sample size was 1 300 in each age group.

Target age	Mean age	Sample size
13	13.5	2 250
15	15.5	2 219

- d. The Canadian part of the 1997-1998 survey was carried out in October 1997. Recommended minimum sample size was 1 536 for each age group.

Target age	Mean age	Sample size
13	13.5	2 308
15	15.5	2 403

- e. The Canadian part of the 2001-2002 survey was carried out in January-February 2002. Recommended minimum sample size was 1 536 for each age group.

Target age	Mean age	Sample size
13	13.8	1 513
15	15.7	1 207

- f. Smokers marked as frequency *: smoked daily. Regular smokers: smoke once a week or more. Cigarettes per smoker (1997) refers to weekly smokers.

19 Health Canada (1994a, 1999b)

- a. The Survey on Smoking in Canada Cycle 1 (SoSiC). One of the initiatives of the federal Tobacco Demand Reduction Strategy (TDRS). The purpose of the survey was to measure levels and changes in cigarette-smoking behaviour over the 1994-1995 fiscal year, subsequent to the reduction in tobacco taxes early in 1994. Cycle 1 was the baseline survey.
- b. Telephone survey of non-institutionalized people aged 15+ in the provinces. One person per household, no proxy responses. Sample size 15 804, response rate 84%.

- c. Smoker: smoked cigarettes daily or non-daily.
- d. The *All ages* values refer to ages 15+; age-specific data are not available for the age groups marked *.
- e. For 1994, prevalence of regular smoking for ages 15-19 and 20-24 estimated from proportion (given for both sexes combined) of daily vs non-daily smokers.

20 Health Canada (1999a, 1999c), Gilmore (2000), Statistics Canada (2001)

- a. National Population Health Survey. A longitudinal household-based survey conducted every two years by Statistics Canada. Target population was all persons aged 12 and older in all provinces and territories and residents of institutions.
- b. 1994 survey is the baseline (sample size 22 622, response rate 85-95%). The 1996 survey was conducted during June 1996-August 1997 (sample size 82 000, response rate 79% in the health component; 16 000 of these subjects were subjects followed up from the baseline survey). 1998/1999 survey – no information available on sample size and response rate.
- c. Regular smokers: smoked daily. All smokers: smoked during the previous 30 days.
- d. The *All ages* values refer to ages 12+; age-specific data are not available for the age groups marked *.
- e. Calculation of cigarettes per person based on percentage smokers (product unspecified) and number of cigarettes per cigarette smoker, so may overestimate.

21 Stephens *et al* (1996), WHO (1997), Health Canada (2005b)

- a. Youth Smoking Survey. National survey of 10-19-year-olds. 10-14-year-olds surveyed at school, 15-19-year-olds interviewed at home by telephone. The telephone sample includes residents of institutions such as group homes and hotels.
- b. Sample size (1994) 23 800, (2002) 19 018. Response rate (1994) 80-81%, (2002) 82%. Approximate ages (2002) corresponding to school grades 5-9.
- c. Regular smokers: (1994) smoked at least one cigarette per day for the 30 days preceding the survey; (2002) had smoked every day in the past 7 days. Smokers: (1994) had smoked at least 100 cigarettes in lifetime and had smoked during the past 30 days.
- d. In the 1994 survey, lowest age group 10-12.
- e. Stephens *et al* (1996) gives prevalence of use of other tobacco independent of cigarette smoking in the past week by people aged 10-19 in 1994 as follows:

	Cigars or Pipes (%)	Chewing tobacco (%)	Snuff (%)
Male	4	2	1
Female	2	0.3	1

22 Bondy and Ialomiteanu (1997) quoting Addiction Research Foundation

- a. Telephone surveys in Ontario. Although regional, these surveys are widely quoted as they are consistent and cover a period when few national surveys were conducted.

Survey and Year	Sample size	Response rate (%)
Adult Drug Use Survey, 1991	1 047	67
OADOS 1992	1 058	63
OADOS 1993	1 034	65
OADOS 1994	2 022	63
OADOS 1995	994	63

OADOS: Ontario Alcohol and Other Drugs Opinion Survey

- b. Regular smokers: smoke daily. Smokers: smoke cigarettes daily or occasionally, or have quit for less than one month.
- c. The *All ages* values refer to ages 18+; age-specific data are not available for the age groups marked *.
- d. There are slight discrepancies between the results presented here (*All ages* prevalence) and those reported by Health Canada (1994b) for some years.
- e. Assumed extensions to age distribution for percentage smokers are shown in the extended version of Table 4 in the Excel tables workbook (for ages 15-17). For ages 18+ the *All ages* value is used, rather than the estimates by age.

23 Health Canada (2005a)

- a. Canadian Tobacco Use Monitoring Survey (CTUMS). Telephone surveys of non-institutionalised residents of Canada (excluding territories). Approximate sample size 22 000.
- b. Household response rate 88% in 1999.
- c. Age groups in the twenties are 20-22, 23-24 and 25-35.
- d. Calculations of cigarettes per person (1999 only) based on percentage current cigarette smokers (regular and occasional) and number of cigarettes per regular cigarettes smoker and so may overestimate.

24 Statistics Canada (2002, 2004), Health Canada (2006)

- a. Canadian Community Health Survey (CCHS). Telephone survey of the general population aged 12 years and older. Two-yearly cycle consisting of a general health survey in year 1 (sample size approximately 130 000) and a focussed topic survey in year 2 (sample size approximately 35 000).
- b. Regular smoker: smoked at least one cigarette per day for each of the 30 days preceding the survey. Smoker: smoked at least one cigarette during the 30 days preceding the survey.

Additional information (not presented in tables)

Conover (1950) commented that a Canadian survey covering 60 cities showed about the same prevalence of smoking as some US surveys had reported in trade journals in the previous 3-4 years, namely 65-70% of men and 40-45% of women.

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