Catalogue 82-538E

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The Health of Canadians

Report of the Canada Health Survey

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Canada

CATALOGUE

82-538E

Occasional

ERRATA

The Health of Canadians

Report of the Canada Health Survey

After the release of the publication an error in the calculation of adjusted family income was discovered. The correction of this led to changes in a number of tables based on this variable. Since any future data released will be based on the corrected file, data users will need the revised tables for use as control totals.

December 1981
4-2300-504

ERRATA - THE HEALTH OF CANADIANS

p. 15 — LHQ response 23,791 (89%) should read: 20,726 (87%)

p. 64 — 0 drink should be: 1 - 6 drinks

pp. 82 - 85 — VO_2 max. is in units of millilitres per kilogram-minute (mL/kg.minute)

p. 143 — para 1 - Nearly 200,000 should be: Over 200,000

p. 143 — The definition for elevated blood pressure should be: Diastolic ≥ 95 mm Hg or Systolic ≥ 160 mm Hg

p. 144 — 185,000 should be: 227,000

Also, in all tables with health problems listed, skin disorders should be: Skin allergies & other skin disorders.

TABLE 6. Population 15 Years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Sex and Economic Family Income Quintiles, Canada, 1978-79

Economic family income quintiles		Type of drinker						
		Total	Occasional and non-drinkers	Current drinkers and weekly volume of alcohol consumed				Type of drinker unknown
				Total	Less than 7 drinks	7 drinks and over	Weekly volume unknown	
		in thousands						
Both sexes:								
Total	**No.**	**17,492**	**5,303**	**11,418**	**5,937**	**4,399**	**1,082**	**771**
	%	**100.0**	**30.3**	**65.3**	**33.9**	**25.1**	**6.2**	**4.4**
First quintile	**No.**	**3,025**	**1,235**	**1,565**	**877**	**476**	**212**	**225**
	%	**100.0**	**40.8**	**51.7**	**29.0**	**15.7**	**7.0**	**7.4**
Second quintile	**No.**	**2,965**	**1,057**	**1,736**	**880**	**628**	**228**	**172**
	%	**100.0**	**35.6**	**58.6**	**29.7**	**21.2**	**7.7**	**5.8**
Third quintile	**No.**	**3,018**	**958**	**1,937**	**1,039**	**707**	**191**	**123**
	%	**100.0**	**31.8**	**64.2**	**34.4**	**23.4**	**6.3**	**4.1**
Fourth quintile	**No.**	**3,505**	**992**	**2,377**	**1,219**	**988**	**170**	**137**
	%	**100.0**	**28.3**	**67.8**	**34.8**	**28.2**	**4.9**	**3.9**
Fifth quintile	**No.**	**4,026**	**780**	**3,170**	**1,599**	**1,362**	**210**	**75**
	%	**100.0**	**19.4**	**78.7**	**39.7**	**33.8**	**5.2**	**1.9**
Income unknown	**No.**	**952**	**280**	**633**	**324**	**238**	**71**	**39**
	%	**100.0**	**29.4**	**66.4**	**34.0**	**25.0**	**7.5**	**4.1**
Male:								
Total	No.	8,584	1,802	6,453	2,716	3,134	603	329
	%	100.0	21.0	75.2	31.6	36.5	7.0	3.8
First quintile	No.	1,271	379	813	387	319	107	79
	%	100.0	29.8	64.0	30.5	25.1	8.4	6.2
Second quintile	No.	1,415	362	985	401	461	124	67
	%	100.0	25.6	69.6	28.3	32.5	8.8	4.8
Third quintile	No.	1,471	305	1,113	482	513	118	53
	%	100.0	20.7	75.7	32.7	34.9	8.0	3.6
Fourth quintile	No.	1,751	339	1,341	551	707	84	70
	%	100.0	19.4	76.6	31.5	40.4	4.8	4.0
Fifth quintile	No.	2,187	311	1,836	747	963	126	39
	%	100.0	14.2	84.0	34.2	44.0	5.8	1.8
Income unknown	No.	489	105	363	148	171	44	20
	%	100.0	21.5	74.3	30.3	35.1	9.0	4.2
Female:								
Total	No.	8,907	3,501	4,965	3,220	1,265	480	442
	%	100.0	39.3	55.7	36.2	14.2	5.4	5.0
First quintile	No.	1,754	856	752	490	157	105	146
	%	100.0	48.8	42.9	27.9	9.0	6.0	8.3
Second quintile	No.	1,549	694	751	479	168	104	104
	%	100.0	44.8	48.5	30.9	10.8	6.7	6.7
Third quintile	No.	1,547	653	824	557	193	73	70
	%	100.0	42.2	53.2	36.0	12.5	4.7	4.5
Fourth quintile	No.	1,755	652	1,035	668	281	87	67
	%	100.0	37.2	59.0	38.0	16.0	4.9	3.8
Fifth quintile	No.	1,838	489	1,334	851	399	83	36
	%	100.0	25.5	72.5	46.3	21.7	4.5	2.0
Income unknown	No.	463	175	269	176	66	27	19
	%	100.0	37.8	58.1	37.9	14.3	5.9	4.1

TABLE 15. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Income Quintiles, Canada, 1978-79

Income quintiles		Type of cigarette smoker						
		Total	Occasional and non-smokers	Current daily smokers and number of cigarettes smoked daily				Type of smoker unknown
				Total	1-22	23 and over	Number unknown	
		in thousands						
Age 15 and over:								
Total	**No.**	**17,492**	**9,891**	**6,525**	**4,196**	**2,178**	**152**	**1,076**
	%	**100.0**	**56.5**	**37.3**	**24.0**	**12.4**	**.9**	**6.1**
First quintile	**No.**	**3,025**	**1,616**	**1,136**	**732**	**359**	**45**	**273**
	%	**100.0**	**53.4**	**37.6**	**24.2**	**11.9**	**1.5**	**9.0**
Second quintile	**No.**	**2,965**	**1,574**	**1,153**	**778**	**342**	**33**	**237**
	%	**100.0**	**53.1**	**38.9**	**26.2**	**11.5**	**1.1**	**8.0**
Third quintile	**No.**	**3,018**	**1,674**	**1,192**	**794**	**377**	**22**	**152**
	%	**100.0**	**55.5**	**39.5**	**26.3**	**12.5**	**.7**	**5.0**
Fourth quintile	**No.**	**3,505**	**2,010**	**1,288**	**815**	**452**	**21**	**207**
	%	**100.0**	**57.3**	**36.7**	**23.2**	**12.9**	**.6**	**5.9**
Fifth quintile	**No.**	**4,026**	**2,491**	**1,399**	**845**	**528**	**26**	**136**
	%	**100.0**	**61.9**	**34.7**	**21.0**	**13.1**	**.6**	**3.4**
Income unknown	**No.**	**952**	**525**	**357**	**232**	**120**	--	**70**
	%	**100.0**	**55.2**	**37.5**	**24.3**	**12.6**	--	**7.3**
15-19:								
Total	No.	2,333	1,422	772	649	98	25	139
	%	100.0	60.9	33.1	27.8	4.2	1.1	6.0
First quintile	No.	459	258	173	141	25	--	27
	%	100.0	56.3	37.8	30.8	5.5	--	5.9
Second quintile	No.	405	239	142	114	22	--	23
	%	100.0	59.1	35.1	28.2	5.4	--	5.8
Third quintile	No.	442	275	134	117	12	--	33
	%	100.0	62.3	30.3	26.5	2.6	--	7.4
Fourth quintile	No.	473	294	151	127	20	--	28
	%	100.0	62.2	31.9	26.9	4.3	--	5.9
Fifth quintile	No.	324	219	88	80	7	--	16
	%	100.0	67.7	27.2	24.6	2.3	--	5.1
Income unknown	No.	231	136	83	70	12	--	12
	%	100.0	58.8	36.1	30.2	5.3	--	5.2
20-24:								
Total	No.	2,215	1,102	1,041	733	297	12	71
	%	100.0	49.8	47.0	33.1	13.4	.5	3.2
First quintile	No.	318	160	144	92	50	--	--
	%	100.0	50.5	45.2	28.9	15.7	--	--
Second quintile	No.	306	163	138	104	34	--	--
	%	100.0	53.4	45.2	34.1	11.0	--	--
Third quintile	No.	383	168	208	147	59	--	--
	%	100.0	43.9	54.3	38.4	15.5	--	--
Fourth quintile	No.	492	243	233	160	70	--	16
	%	100.0	49.3	47.4	32.6	14.2	--	3.2
Fifth quintile	No.	562	295	253	183	66	--	..
	%	100.0	52.4	45.0	32.5	11.7	--	..
Income unknown	No.	153	73	65	46	18	--	..
	%	100.0	47.6	42.5	30.3	11.7	--	..

TABLE 15. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Income Quintiles, Canada, 1978-79 – Concluded

Income quintiles		Type of cigarette smoker						
		Total	Occasional and non-smokers	Current daily smokers and number of cigarettes smoked daily				Type of smoker unknown
				Total	1-22	23 and over	Number unknown	
		in thousands						
25-44:								
Total	No	6,472	3,544	2,648	1,525	1,082	41	281
	%	100.0	54.8	40.9	23.6	16.7	.6	4.3
First quintile	No.	861	396	413	226	169	18	52
	%	100.0	46.0	47.9	26.2	19.6	2.1	6.1
Second quintile	No.	1,215	553	565	338	222	--	96
	%	100.0	45.5	46.5	27.8	18.3	--	7.9
Third quintile	No.	1,246	696	513	314	197	--	37
	%	100.0	55.9	41.2	25.2	15.8	--	2.9
Fourth quintile	No.	1,310	780	476	271	198	--	54
	%	100.0	59.5	36.3	20.7	15.1	--	4.2
Fifth quintile	No.	1,589	981	576	322	249	--	31
	%	100.0	61.8	36.3	20.2	15.7	--	2.0
Income unknown	No.	252	137	105	55	47	--	--
	%	100.0	54.5	41.7	21.9	18.7	--	--
45-64:								
Total	No.	4,453	2,483	1,647	988	618	40	323
	%	100.0	55.8	37.0	22.2	13.9	.9	7.3
First quintile	No.	655	339	253	165	84	--	62
	%	100.0	51.8	38.7	25.1	12.8	--	9.5
Second quintile	No.	539	292	194	134	53	--	54
	%	100.0	54.1	35.9	24.8	9.8	--	9.9
Third quintile	No.	687	356	287	178	100	--	44
	%	100.0	51.8	41.8	25.9	14.5	--	6.4
Fourth quintile	No.	983	517	388	232	150	--	79
	%	100.0	52.6	39.4	23.6	15.3	--	8.0
Fifth quintile	No.	1,315	830	425	223	190	12	60
	%	100.0	63.1	32.3	17.0	14.4	.9	4.6
Income unknown	No.	274	150	100	57	42	-	25
	%	100.0	54.6	36.4	20.8	15.4	-	9.0
65 and over:								
Total	No.	2,019	1,340	417	301	82	35	262
	%	100.0	66.4	20.7	14.9	4.1	1.7	13.0
First quintile	No.	733	462	153	108	31	--	118
	%	100.0	63.0	20.9	14.8	4.2	--	16.1
Second quintile	No.	500	327	113	88	12	--	60
	%	100.0	65.4	22.7	17.6	2.4	--	11.9
Third quintile	No.	260	178	50	37	--	--	32
	%	100.0	68.6	19.1	14.2	--	--	12.3
Fourth quintile	No.	248	177	40	25	--	--	31
	%	100.0	71.3	16.2	10.2	--	--	12.4
Fifth quintile	No.	236	166	57	39	--	--	13
	%	100.0	70.5	24.0	16.3	--	--	5.5
Income unknown	No.	43	30	--	--	--	-	--
	%	100.0	70.5	--	--	--	-	--

TABLE 59. Prevalence of Health Problems by Economic Family Income, by Type of Health Problem, Canada, 1978-79(1)

Type of health problem		Total	First quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile	Income unknown
		in thousands						
Total population(2)	**No.**	**23,023**	**4,335**	**4,335**	**4,334**	**4,335**	**4,335**	**1,349**
	%	**100.0**	**18.8**	**18.8**	**18.8**	**18.8**	**18.8**	**5.9**
At least one problem	No.	12,510	2,504	2,233	2,243	2,399	2,524	607
	%	100.0	20.0	17.8	17.9	19.2	20.2	4.9
No problem	No.	10,513	1,831	2,102	2,091	1,936	1,811	742
	%	100.0	17.4	20.0	19.9	18.4	17.2	7.1
Health problems:								
Total problems	**No.**	**25,526**	**6,018**	**4,600**	**4,258**	**4,634**	**4,945**	**1,070**
	%	**100.0**	**23.6**	**18.0**	**16.7**	**18.2**	**19.4**	**4.2**
Mental disorders	No.	1,000	342	180	118	184	135	41
	%	100.0	34.2	18.0	11.8	18.4	13.5	4.1
Diabetes	No.	379	109	68	63	59	69	11
	%	100.0	28.9	17.9	16.7	15.5	18.2	2.8
Thyroid disorders	No.	297	69	58	37	49	63	20
	%	100.0	23.3	19.6	12.6	16.6	21.3	6.6
Anemia	No.	417	126	69	59	70	71	22
	%	100.0	30.1	16.7	14.2	16.9	16.9	5.2
Headache	No.	1,102	245	167	201	220	219	49
	%	100.0	22.3	15.2	18.3	20.0	19.9	4.4
Sight disorders	No.	1,200	349	225	171	208	209	38
	%	100.0	29.1	18.8	14.2	17.4	17.4	3.1
Hearing disorders	No.	1,028	237	201	197	164	184	45
	%	100.0	23.1	19.5	19.2	15.9	17.9	4.3
Hypertension	No.	1,551	398	286	232	269	279	86
	%	100.0	25.7	18.4	15.0	17.3	18.0	5.5
Heart disease	No.	847	263	175	122	123	139	24
	%	100.0	31.1	20.7	14.4	14.6	16.4	2.9
Acute respiratory	No.	781	172	144	161	116	142	46
	%	100.0	22.0	18.5	20.6	14.9	18.1	5.9
Influenza	No.	680	155	114	115	125	139	32
	%	100.0	22.8	16.7	16.9	18.4	20.5	4.7
Bronchitis and emphysema	No.	562	156	129	66	102	86	23
	%	100.0	27.8	23.0	11.8	18.2	15.2	4.1
Asthma	No.	547	137	112	93	92	93	20
	%	100.0	25.0	20.4	17.1	16.9	16.9	3.6
Hay fever and other allergies	No.	2,157	321	323	370	482	557	103
	%	100.0	14.9	15.0	17.2	22.4	25.8	4.8
Dental problems	No.	1,697	437	299	313	293	292	63
	%	100.0	25.8	17.6	18.5	17.2	17.2	3.7
Gastric and duodenal ulcers	No.	482	119	71	72	106	90	23
	%	100.0	24.7	14.8	15.0	22.1	18.6	4.8
Digestive disorders	No.	687	182	112	115	123	145	12
	%	100.0	26.4	18.2	16.7	17.9	21.1	1.7
Skin disorders	No.	2,064	351	352	388	424	471	78
	%	100.0	17.0	17.1	18.8	20.5	22.8	3.8
Arthritis and rheumatism	No.	2,440	614	459	379	423	466	100
	%	100.0	25.2	18.8	15.5	17.3	19.1	4.1
Limb and joint disorders	No.	2,334	520	394	368	431	498	123
	%	100.0	22.3	16.9	15.8	18.5	21.3	5.3
Trauma	No.	616	93	119	127	116	138	24
	%	100.0	15.1	19.3	20.5	18.9	22.3	3.9
Other	No.	2,660	624	542	489	454	462	89
	%	100.0	23.4	20.4	18.4	17.1	17.4	3.4

(1) "Prevalence" refers to existing conditions reported at the time of the interview and therefore includes both acute and chronic conditions.
(2) The top portion of the table shows the proportion of the population experiencing health problems while the bottom shows the number of health problems reported, classified by type of problem.

TABLE 66. Population by Vision Trouble, by Economic Family Income Quintiles and Sex, Canada, 1978-79

		Vision trouble					
		Total	No trouble		Trouble		Unknown
			Without lenses	With lenses	Without lenses	With lenses	
		in thousands					
Economic family income quintiles:							
Both sexes	**No.**	**23,023**	**12,071**	**9,718**	**308**	**752**	**174**
	%	**100.0**	**52.4**	**42.2**	**1.3**	**3.3**	**.8**
Male	**No.**	**11,417**	**6,599**	**4,339**	**138**	**241**	**99**
	%	**100.0**	**57.8**	**38.0**	**1.2**	**2.1**	**.9**
Female	**No.**	**11,606**	**5,471**	**5,379**	**170**	**510**	**75**
	%	**100.0**	**47.1**	**46.3**	**1.5**	**4.4**	**.6**
First quintile:							
Total	No.	4,335	2,362	1,640	80	241	12
	%	100.0	54.5	37.8	1.8	5.6	.3
Male	No.	1,962	1,232	631	30	63	--
	%	100.0	62.8	32.1	1.5	3.2	--
Female	No.	2,373	1,129	1,009	50	178	--
	%	100.0	47.6	42.5	2.1	7.5	--
Second quintile:							
Total	No.	4,335	2,525	1,589	69	128	23
	%	100.0	58.3	36.6	1.6	3.0	.5
Male	No.	2,079	1,326	667	37	36	13
	%	100.0	63.8	32.1	1.8	1.7	.6
Female	No.	2,256	1,199	922	32	92	10
	%	100.0	53.2	40.9	1.4	4.1	.5
Third quintile:							
Total	No.	4,334	2,528	1,629	46	105	27
	%	100.0	58.3	37.6	1.1	2.4	.6
Male	No.	2,170	1,393	700	21	36	19
	%	100.0	64.2	32.3	1.0	1.7	.9
Female	No.	2,165	1,135	929	25	69	--
	%	100.0	52.4	42.9	1.1	3.2	--
Fourth quintile:							
Total	No.	4,335	2,144	1,977	58	120	36
	%	100.0	49.5	45.6	1.3	2.8	.8
Male	No.	2,136	1,146	917	23	34	15
	%	100.0	53.7	42.9	1.1	1.6	.7
Female	No.	2,200	998	1,060	35	86	21
	%	100.0	45.4	48.2	1.6	3.9	.9
Fifth quintile:							
Total	No.	4,335	1,812	2,312	40	143	28
	%	100.0	41.8	53.3	.9	3.3	.7
Male	No.	2,345	1,087	1,148	22	65	23
	%	100.0	46.4	49.0	.9	2.8	1.0
Female	No.	1,990	724	1,164	18	78	--
	%	100.0	36.4	58.5	.9	3.9	--
Unknown:							
Total	No.	1,349	700	572	16	14	47
	%	100.0	51.9	42.4	1.2	1.0	3.5
Male	No.	727	415	277	--	--	23
	%	100.0	57.1	38.1	--	--	3.1
Female	No.	622	285	295	--	7	24
	%	100.0	45.8	47.4	--	1.1	3.9

TABLE 72. Population 15 Years and Over by "Affect Balance Scale" Scores, by Economic Family Income Quintiles, Canada, 1978-79

		Affect Balance Scale scores				
		Total	Positive	Mixed	Negative	Unknown
		in thousands				
Economic family income quintiles:						
Total	**No.**	**17,492**	**7,956**	**7,081**	**770**	**1,686**
	%	**100.0**	**45.5**	**40.5**	**4.4**	**9.6**
First quintile	No.	3,025	1,092	1,236	232	465
	%	100.0	36.1	40.9	7.7	15.4
Second quintile	No.	2,965	1,246	1,247	126	346
	%	100.0	42.0	42.1	4.3	11.7
Third quintile	No.	3,018	1,431	1,247	107	233
	%	100.0	47.4	41.3	3.6	7.7
Fourth quintile	No.	3,505	1,657	1,446	137	266
	%	100.0	47.3	41.2	3.9	7.6
Fifth quintile	No.	4,026	2,092	1,542	122	269
	%	100.0	52.0	38.3	3.0	6.7
Unknown	No.	952	438	362	45	107
	%	100.0	46.0	38.0	4.7	11.3

TABLE 73. Population 15 Years and Over by "Health Opinion Survey" Scores, by Economic Family Income Quintiles, Canada, 1978-79

		Health Opinion Survey scores			
		Total	Infrequent symptoms of anxiety and depression	Frequent symptoms of anxiety and depression	Unknown
		in thousands			
Economic family income quintiles:					
Total	**No.**	**17,492**	**16,248**	**693**	**550**
	%	**100.0**	**92.9**	**4.0**	**3.1**
First quintile	No.	2,890	2,387	305	198
	%	100.0	82.6	10.5	6.9
Second quintile	No.	3,014	2,788	109	118
	%	100.0	92.5	3.6	3.9
Third quintile	No.	3,203	3,037	90	77
	%	100.0	94.8	2.6	2.4
Fourth quintile	No.	3,470	3,277	99	94
	%	100.0	94.4	2.9	2.7
Fifth quintile	No.	3,980	3,877	61	42
	%	100.0	97.4	1.5	1.0
Unknown	No.	934	882	30	22
	%	100.0	94.4	3.2	2.4

TABLE 91. Population by Consultations with a Health Professional During Last Two Weeks, by Economic Family Income and Sex, Canada, 1978-79

		Consultations in last 2 weeks with a health professional			
		Total	No consultation	Consultation without problem	Consultation with a problem
		in thousands			
Economic family income:					
Both sexes	**No.**	**23,023**	**17,906**	**1,737**	**3,380**
	%	**100.0**	**77.8**	**7.5**	**14.7**
Male	**No.**	**11,417**	**9,331**	**684**	**1,402**
	%	**100.0**	**81.7**	**6.0**	**12.3**
Female	**No.**	**11,606**	**8,575**	**1,053**	**1,978**
	%	**100.0**	**73.9**	**9.1**	**17.0**
First quintile:					
Both sexes	No.	4,335	3,347	307	680
	%	100.0	77.2	7.1	15.7
Male	No.	1,962	1,589	101	271
	%	100.0	81.0	5.2	13.8
Female	No.	2,373	1,758	206	409
	%	100.0	74.1	8.7	17.2
Second quintile:					
Both sexes	No.	4,335	3,407	329	599
	%	100.0	78.6	7.6	13.8
Male	No.	2,079	1,679	135	264
	%	100.0	80.8	6.5	12.7
Female	No.	2,256	1,728	193	335
	%	100.0	76.6	8.6	14.8
Third quintile:					
Both sexes	No.	4,334	3,372	321	642
	%	100.0	77.8	7.4	14.8
Male	No.	2,170	1,780	121	268
	%	100.0	82.1	5.6	12.4
Female	No.	2,165	1,591	200	374
	%	100.0	73.5	9.2	17.3
Fourth quintile:					
Both sexes	No.	4,335	3,344	340	651
	%	100.0	77.1	7.8	15.0
Male	No.	2,136	1,767	125	244
	%	100.0	82.7	5.9	11.4
Female	No.	2,200	1,577	215	407
	%	100.0	71.7	9.8	18.5
Fifth quintile:					
Both sexes	No.	4,335	3,314	368	653
	%	100.0	76.5	8.5	15.1
Male	No.	2,345	1,887	166	292
	%	100.0	80.5	7.1	12.4
Female	No.	1,990	1,427	202	361
	%	100.0	71.7	10.2	18.1
Unknown:					
Both sexes	No.	1,349	1,122	72	155
	%	100.0	83.2	5.3	11.5
Male	No.	727	629	36	82
	%	100.0	86.5	4.9	8.6
Female	No.	622	493	36	93
	%	100.0	79.3	5.9	14.9

TABLE 94. Population by Reasons for Not Seeking Help, by Economic Family Income Quintiles, Canada and Regions, 1978-79

		Reasons for not seeking help						
		Total population	Not serious enough	Time	Cost	Under control	Other	Unknown
		in thousands						
Canada								
Total	**No.**	**23,023**	**2,814**	**113**	**149**	**2,112**	**1,238**	**64**
	%	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
First quintile	**No.**	**4,335**	**562**	**53**	**24**	**384**	**296**	**13**
	%	**18.8**	**20.0**	**47.1**	**16.3**	**18.2**	**23.9**	**20.2**
Second quintile	**No.**	**4,335**	**486**	**22**	**20**	**384**	**236**	**13**
	%	**18.8**	**17.3**	**19.6**	**13.6**	**18.2**	**19.1**	**19.9**
Third quintile	**No.**	**4,334**	**472**	**22**	**35**	**330**	**218**	**11**
	%	**18.8**	**16.8**	**19.9**	**23.2**	**15.6**	**17.6**	**17.1**
Fourth quintile	**No.**	**4,335**	**521**	**10**	**27**	**424**	**207**	**7**
	%	**18.8**	**18.5**	**8.7**	**18.3**	**20.1**	**16.8**	**10.3**
Fifth quintile	**No.**	**4,335**	**651**	**--**	**36**	**492**	**231**	**18**
	%	**18.8**	**23.1**	**--**	**23.9**	**23.3**	**18.7**	**27.6**
Unknown	**No.**	**1,349**	**121**	**--**	**7**	**99**	**48**	**--**
	%	**5.9**	**4.3**	**--**	**4.6**	**4.7**	**3.9**	**--**
Atlantic region								
Total	No.	2,191	288	17	16	201	125	12
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0
First quintile	No.	598	78	9	--	52	44	--
	%	27.3	27.1	54.5	--	25.6	34.8	--
Second quintile	No.	517	62	--	--	50	29	--
	%	23.6	21.5	--	--	25.0	23.5	--
Third quintile	No.	406	57	--	--	32	20	--
	%	18.5	19.9	--	--	15.9	16.4	--
Fourth quintile	No.	305	44	--	--	32	16	--
	%	13.9	15.4	--	--	15.9	12.6	--
Fifth quintile	No.	254	40	--	--	24	11	--
	%	11.6	13.8	--	--	12.0	8.7	--
Unknown	No.	111	7	-	--	11	5	-
	%	5.1	2.4	-	--	5.7	3.9	-
Quebec								
Total	No.	6,198	659	56	45	294	414	--
	%	100.0	100.0	100.0	100.0	100.0	100.0	--
First quintile	No.	1,431	182	24	10	84	143	--
	%	23.1	27.6	43.1	22.4	28.7	34.6	--
Second quintile	No.	1,279	107	--	--	60	78	--
	%	20.6	16.2	--	--	20.5	18.8	--
Third quintile	No.	1,265	128	--	--	48	75	--
	%	20.4	19.4	--	--	16.3	18.1	--
Fourth quintile	No.	1,021	124	--	--	52	55	-
	%	16.5	18.9	--	--	17.7	13.3	-
Fifth quintile	No.	879	95	-	--	31	44	--
	%	14.2	14.5	-	--	10.5	10.6	--
Unknown	No.	322	22	--	--	19	19	--
	%	5.2	3.4	--	--	6.3	4.6	--

See footnote(s) at end of table

TABLE 94. Population by Reasons for Not Seeking Help, by Economic Family Income Quintiles, Canada and Regions, 1978-79 - Concluded

		Reasons for not seeking help						
		Total population	Not serious enough	Time	Cost	Under control	Other	Unknown
		in thousands						
Ontario:								
Total	No	8,336	942	23	32	810	349	--
	%	100.0	100.0	100.0	100.0	100.0	100.0	--
First quintile	No	1,509	171	--	--	133	53	--
	%	18.1	18.2	--	--	16.4	15.1	--
Second quintile	No	1,419	167	--	--	127	55	--
	%	17.0	17.8	--	--	15.7	15.8	--
Third quintile	No	1,586	154	--	--	137	75	--
	%	19.0	16.3	--	--	16.9	21.4	--
Fourth quintile	No	1,697	185	-	--	177	70	--
	%	20.4	19.6	-	--	21.8	20.0	--
Fifth quintile	No	1,634	224	--	--	206	88	--
	%	19.6	23.8	--	--	25.5	25.3	--
Unknown	No	490	41	-	-	31	--	-
	%	5.9	4.3	-	-	3.8	--	-
Prairie region:								
Total	No	3,820	558	9	32	428	178	18
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0
First quintile	No	465	77	--	--	54	28	--
	%	12.2	13.8	--	--	12.6	15.4	--
Second quintile	No	667	96	--	--	79	39	--
	%	17.5	17.1	--	--	18.4	21.8	--
Third quintile	No	604	80	--	--	54	19	--
	%	15.8	14.3	--	--	12.5	10.8	--
Fourth quintile	No	764	93	--	--	87	32	--
	%	20.0	16.7	--	--	20.3	18.0	--
Fifth quintile	No	968	171	-	13	126	49	--
	%	25.3	30.7	-	41.6	29.4	27.5	--
Unknown	No	351	41	-	--	29	--	-
	%	9.2	7.4	-	--	6.8	--	-
British Columbia:								
Total	No	2,479	368	--	25	379	171	--
	%	100.0	100.0	--	100.0	100.0	100.0	--
First quintile	No	332	54	--	--	62	29	--
	%	13.4	14.6	--	--	16.3	17.0	--
Second quintile	No	451	55	--	--	67	35	--
	%	18.2	15.0	--	--	17.8	20.4	--
Third quintile	No	474	54	--	--	60	29	-
	%	19.1	14.6	--	--	15.8	16.9	-
Fourth quintile	No	548	74	-	--	76	34	--
	%	22.1	20.2	-	--	20.1	20.1	--
Fifth quintile	No	600	121	--	--	105	39	--
	%	24.2	32.9	--	--	27.7	22.8	--
Unknown	No	75	16	-	--	--	--	--
	%	3.0	3.0	-	--	--	--	--

Canada Health Survey

Health and Welfare Canada
Statistics Canada

The Health of Canadians

Report of the Canada Health Survey

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Symbols

The following standard symbols are used in Statistics Canada publications:

. . figures not available.

. . . figures not appropriate or not applicable.

– nil or zero.

- - amount too small to be expressed.

p preliminary figures.

r revised figures.

x confidential to meet secrecy requirements of the Statistics Act.

ABBREVIATIONS

ABS – Affect Balance Scale

CHS – Canada Health Survey

HOS – Health Opinion Survey

HRC – Household Record Card

IAQ – Interviewer – Administered Questionnaire

LHQ – "Lifestyle and Your Health" Questionnaire (self-completed)

PMQ – Physical Measures Questionnaire

NOTE

16
1.3 Shading indicates sampling error = 20 - 39% of cell entry.

- - Amount too small to be expressed, i.e., sampling error $\geqslant$ 40% or sample size $<$ 15.

Preface

The Health of Canadians is a report of the findings of the Canada Health Survey, a survey of the health status of the Canadian population conducted during 1978 and 1979 by Health and Welfare Canada and Statistics Canada. The purpose of this report is to illustrate the range and quality of the data collected during the survey, to indicate briefly first-order relationships, and to suggest fruitful areas for further analysis.

All phases of the Canada Health Survey, including the preparation of this report, represent a joint effort on behalf of the two departments. The major responsibilities of Statistics Canada in the project were the development of sample design and survey procedures, the collection of the interview data, and the design and implementation of the data processing system. The major responsibilities of Health and Welfare Canada were the specification of survey requirements, the establishment of procedures for the collection of the physical measures, and the analysis of blood samples. The planning of the survey benefited from extensive consultation with potential data users, facilitated through a Federal Interdepartmental Liaison Group, and a Federal-Provincial Liaison Group.

In addition to reporting findings in a number of areas of interest to health planners and researchers, the report describes the survey methodology in considerable detail, and identifies the strengths and limitations of the data. The major strengths of the data stem from the large number of data items collected from each respondent while their major limitations stem from the single-visit nature of the survey and the small sample size associated with some variables. Had the Canada Health Survey been a ongoing activity, as originally planned, this latter problem would have been alleviated with the accumulation of a larger sample over time.

However, the government-wide policy of expenditure restraint introduced in August 1978 led to a revision of the plan to conduct the survey on an ongoing annual basis. As a result, the survey was terminated after the first year, pending an evaluation of appropriateness of the frequency of administration of the survey and its content.

The individuals who played key roles in the design and implementation of the survey are identified in Appendix IV. Several of these individuals contributed to the current report: Neil Collishaw (Chapters I to IV), Ian D. Richardson (Chapters III, V, VIII, IX), John R. McWhinnie (Chapters VI and X), Gareth Jones (Overview), and Thomas Stephens (Overview, Chapter VII).

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OVERVIEW OF THE CANADA HEALTH SURVEY

Objectives of the Canada Health Survey

Information Needs

When the Canada Health Survey was proposed in 1974, adequate Canadian statistics had been available for several years describing the principal causes of morbidity and mortality, the utilization of health care services and their cost.[1] Much of this information was a by-product of the record-keeping necessitated by the various provincial health insurance schemes, and had been supplemented from time to time by special surveys on specific topics (e.g., nutrition)[2] as the need arose. Excluding the occasional population survey, this information had tended to emphasize only a part of the total health picture, namely the illness which comes to the attention of the health care system. While important, this information left significant areas untouched.

The Canada Health Survey (CHS) was intended to fill these gaps by providing health statistics compatible with **A New Perspective on the Health of Canadians.**[3] This perspective is summarized graphically in Figure I.

Figure I. Basic Model of Health

Risks to future health of three main types are identified in **A New Perspective**, and each is probed in the CHS. They are lifestyle, biomedical and environmental. Lifestyle, in particular, lends itself to measurement in a household survey. Risks have an impact on future health, but, since the time element is missing from a cross-sectional survey, the CHS was restricted to examining the distribution of known hazards.

Health status — only partially the outcome of earlier risk exposure — has positive and negative dimensions, which were measured for both the physical and emotional facets of health.

Because morbidity statistics have in the past been derived from health records which report a single episode rather than entire histories, it has been impossible to assess the personal burden of ill-health, especially for those problems which do not reach the health care system. The CHS rectifies this by identifying health problems and their consequences for each individual in the sample, and using these to evaluate the impact of ill-health.

The findings in this report are organized according to the schematic model in Figure I. Risk factors of lifestyle origin are examined in Chapters I to IV, which deal with alcohol and tobacco use, physical activity and the wearing of seatbelts. An important aspect of bio-medical risks is examined in Chapter V on immune status. In each chapter, populations most at risk are identified, and there is discussion of the clustering of risks (e.g., combined alcohol and tobacco use), as well as consideration of the relationship between health status and risk exposure.

Chapters VI to IX present findings on health status, including health problems and disability, emotional health, blood pressure, and blood biochemistry. Underscoring the complex nature of health, some of these topics (e.g., high blood pressure) could be considered as risks for some diseases; undeniably, they yield important facts on the current health of the population.

Some of the consequences of ill-health are considered in Chapter X which describes the use of health services and medication. This chapter also considers preventive health services for women, and thus returns to the theme of the early chapters which focus on avoidable or discretionary risks.

Uses of the Survey Data

The findings of the CHS — both as reported here and in the form of additional analyses — should aid in the planning of health care, health promotion and disease prevention by governments and others. Several illustrative uses follow.

Setting priorities on health problems. The data in Chapter VI suggest priorities which are very different from those established through calculations of "potential years of life lost", for example.[4] While this index gives prominence to ischaemic heart disease and accidents, a comparison of the causes of activity limitation, as reported in Chapter VI, gives top ratings to limb and joint disorders, heart disease and arthritis. On the other hand, the priority now accorded hypertension is supported by the findings reported in Chapter VIII concerning the extent to which this problem is undiagnosed and untreated.

Identifying groups at risk or afflicted by ill-health. Examining risk populations and drawing profiles of the ill permits more precise targeting of programs and more accurate forecasts of future demands on the health care system. Of particular concern in the latter regard is the current risk exposure of the post-war baby boom, now comprising much of the age group 25-44. Because of their sheer numbers, the lifestyle risks being run by this group will have a significant bearing on the demand for health care during the balance of this century.

Epidemiological studies. Within the limits of cross-sectional data (collected at the same point in time), the CHS provides fertile ground for investigating how certain risks are combined in the population (e.g., smoking and birth control pill use in

Chapter X) and how various risks are related to health (e.g., activity and blood pressure in Chapter III).

Establishing Canada-wide baselines. While the CHS sample does not yield findings for geographic areas smaller than Canada's five regions, the normative data appearing in virtually every chapter can be used to interpret findings of studies conducted locally using compatible methods. In particular, the report publishes normative data on maximum oxygen uptake, immune status, emotional health, blood pressure, trace metals, and blood biochemistry. This is the first time in Canada that such data have been published on a representative, non-volunteer sample of the non-institutionalized population.

Replications and adaptations of CHS procedures. Carefully designed applications of the CHS questionnaires can provide two kinds of benefit for local agencies undertaking their own health surveys. Already noted is the existence of normative data for interpreting local statistics. Also significant are the savings realized by adopting existing, and proven, methods. The Ottawa-Carleton Regional District Health Council and the Montreal General Hospital *Département de Santé Communautaire* have already conducted surveys of their populations using CHS methods.[5]

This report of the findings of the Canada Health Survey can do little more than give the basic results and indicate the potential in the database. Further analyses can be conducted on request by contacting the Research and Analysis Section, Health Division, Statistics Canada, Ottawa, K1A 0T6 (telephone 995-7808).

Survey Methods, Sample Design and Data Limitations

Coverage

The Canada Health Survey covered the non-institutionalized Canadian population, excluding residents of the Territories, Indian Reserves and remote areas as defined by the Canadian Labour Force Survey. In total, these exclusions comprise approximately 3% of the entire Canadian population. The survey field work commenced in May 1978 in the eastern provinces, the central provinces were added in June and the entire survey population was covered from July onwards. Data collection was halted in March 1979. Only data collected during the period July 1978 through March 1979 were used for this report.

Data Items and Data Collection

The very broad scope of information required by users necessitated the use of a broad range of survey methods and data collection instruments. The major delineation of collection methods was between those utilizing questionnaires, either interviewer- or respondent-completed, and those using instrumented measures, which required the involvement of personnel with particular technical training.

In the first of these categories, referred to in the following as the Interview component, there were three questionnaires or forms. Since the survey collected its data from persons who reside in dwellings, termed households, there was a need at the start of data collection to identify both particular characteristics of the dwelling as well as persons who resided there. This was the function of the Household Record Card (HRC). The second form of the three comprising the Interview component collected data which in general required probing by an interviewer, but could also be obtained for the entire household from a suitable member. This form was called the Interviewer Administered Questionnaire (IAQ). The third form was for data which could be sensitive or could only be reliably answered by the person concerned. Due to its content and the need for respondent completion, it was called the Lifestyle and Your Health Questionnaire (LHQ) and was limited to persons age 15 years and over.

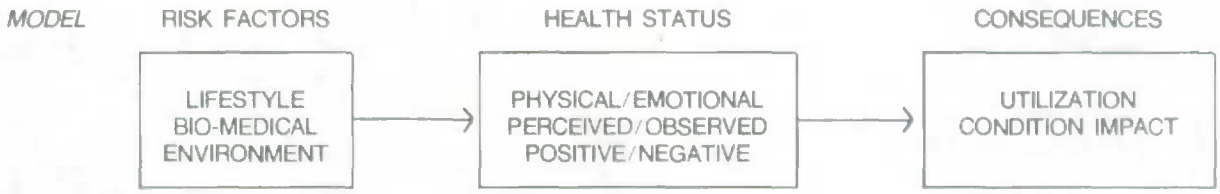
The second of the two major collection method categories, referred to in this report as the Physical Measures component, was divided into two parts. The first of these included physical measurements of blood pressure, cardiorespiratory fitness, height, weight and skinfold on persons age two years and over. These data were recorded in the Physical Measures Questionnaire (PMQ). The other part involved the taking of blood samples from persons age three years and over in order to determine immune status as well as biochemical and trace metal levels. Only a subset of the households selected to participate in the Interview component were asked to participate in the Physical Measures component.

Figure II summarizes the data items collected, under the risk factors/health status/consequences model. Each group of data is identified with the form or method used for its collection. Copies of some of these forms are shown in Appendix I.

The field organization of Statistics Canada collected the Interview component data using part-time interviewers. The Physical Measures component data were collected by part-time nurses employed by the Victorian Order of Nurses under contract to Health and Welfare Canada.

Each interviewer and nurse was responsible for the collection of data from households in only one of the sample clusters. The interviewer collected the IAQ data for the entire household from a suitable member and then left behind the LHQ for respondent completion, to be picked up by the interviewer a few days later. Where the visit was to a Physical Measures component household, the interviewer and nurse worked as a team. On leaving behind the LHQ, the interviewer made an appointment to return with the nurse to collect both these questionnaires and the Physical Measures component data. The equipment used to obtain the physical measures and blood samples was chosen to be both portable and reliable, and included a

Figure II. A Summary of Data Items



DATA

LIFESTYLE

• alcohol use	LHQ
• tobacco use	LHQ
• physical activities	LHQ
• seatbelt use	LHQ
• female preventive behaviour	LHQ

REPORTED HEALTH

• activity limitations	IAQ
• short-term conditions	IAQ
• accidents and injuries	IAQ
• chronic conditions	IAQ
• impairments	IAQ
• hearing, vision, dental status	IAQ

UTILIZATION

• professional providing care	IAQ
• location care received	IAQ
• reasons care not sought	IAQ
• drug use	IAQ
• medical devices used	IAQ

BIO-MEDICAL

• immune status	BLOOD
• cholesterol, glucose, uric acid	BLOOD
• family disease history	LHQ

PHYSICAL HEALTH

• cardiorespiratory fitness	PMQ
• blood pressure	PMQ
• per cent body fat	PMQ
• anemia	BLOOD
• liver function	BLOOD
• kidney function	BLOOD

CONDITION IMPACT

• disability days	IAQ

ENVIRONMENT

• lead, cadmium, copper, zinc	BLOOD

EMOTIONAL HEALTH

• psychological well-being	LHQ
• alcohol-related problems	LHQ

HOUSEHOLD CHARACTERISTICS

• area designation	HRC
• household membership	HRC
• dwelling characteristics	HRC

DEMOGRAPHIC CHARACTERISTICS

• social characteristics	IAQ & LHQ
• economic characteristics	IAQ
• mobility, immigration	IAQ
• life events	LHQ

KEY:
- HRC - Household Record Card
- IAQ - Interviewer Administered Questionnaire
- LHQ - Lifestyle and your Health Questionnaire
- PMQ - Physical Measures Questionnaire
- BLOOD - Blood sample

} Interview component

} Physical measures component

beam balance and collapsible steps (for the fitness measurements). Blood samples were kept cool until the nurse delivered them, within 16 hours, to the local laboratory which processed the blood samples under a contract with Canada Health Survey. There the blood samples which required it were centrifuged, separated and, with the other samples, frozen until shipment each month to five central laboratories.

Interviewers and nurses received two weeks training before commencing field work and the blood-processing technicians received one day. Edits were carried out by the field staff on each form to ensure errors at the collection stage were minimized. Physical measurement equipment was checked before each household visit and any faulty equipment either repaired or replaced.

Sample Design

The area frame used in this survey was stratified initially by province. Quebec and Ontario each contained three further strata, delimited in terms of groups of provincial health regions. Each of these initial strata was stratified into three additional strata. The first stratum contained the major cities in the region, the second the other major urban parts and the third the remaining, mainly rural, parts of the region.

In developing the sample design, it became evident that the complexity of the collection instruments and procedures required the use of a well-trained and continuing field staff. Furthermore, this staff should be able to operate within a limited distance of their own homes so as to minimize collection costs. Households were considered to be efficient sampling units for the health data required because, in general, they included persons covering a wide age range. These considerations led to the transformation of the required yearly sample size of 40,000 persons for the Interview component into 12,000 households from 100 geographical clusters in monthly samples of 10 households per cluster. The sample design for the Physical Measures component aimed at a yearly subsample of 4,200 households from 50 of the 100 Interview component clusters, at the rate of seven of the 10 Interview households per cluster per month.

The government-wide policy of expenditure restraint introduced in August 1978 led to a revision of the plan to conduct the survey on an ongoing annual basis. As a result, the survey was terminated after the first year, pending an evaluation of appropriateness of the frequency of administration of the survey and its content. In addition, changes to the actual number of households selected per cluster were made during the first year's collection. This ensured that close to a 12,000 household sample size was reached before the survey data collection was discontinued. Details of these differences as well as further information on the sample design are covered in Appendix II.

Except for those involving annual disability days (Chapter VI) and the Health Opinion Survey (Chapter VII), all tables in this report are based only on data collected during the nine-month period July 1978 to March 1979. Figure III presents the sample response rates for the Interview and Physical Measures data collection components for this period. The top part of the figure reports on responses to the Interview component for the entire survey sample covered during this period; the lower part reports on responses to the Physical Measures component. In this figure, as well as in Figure IV discussed later, a response to a "form" (IAQ, LHQ, PMQ or Blood) is defined as a valid response to at least one compulsory item on that form.

The vertical dimension in each diagram in Figure III relates to the number of responses and the horizontal one relates to the age range covered. On this basis, the relative diagram areas provide a visual impression of the relative response magnitudes. This relationship is maintained not only within but also between components, since the ratio of the areas of the first diagram for each component is equal to the ratio of the related sample sizes.

In order to facilitate further comparisons, the numbers of dwellings and persons at each form level are included in the figure. In particular, the percentage in brackets in each diagram is the response rate within the eligible sample for that form. As an example, one can identify for the Physical Measures component that blood was collected for 80% of those persons age three years and over who responded to the PMQ. Since 72% of the IAQ respondents who were eligible for the PMQ also responded to the PMQ, one can reasonably conclude that approximately 58%, that is 80% of 72%, of the IAQ respondents also provided blood samples.

Data Processing

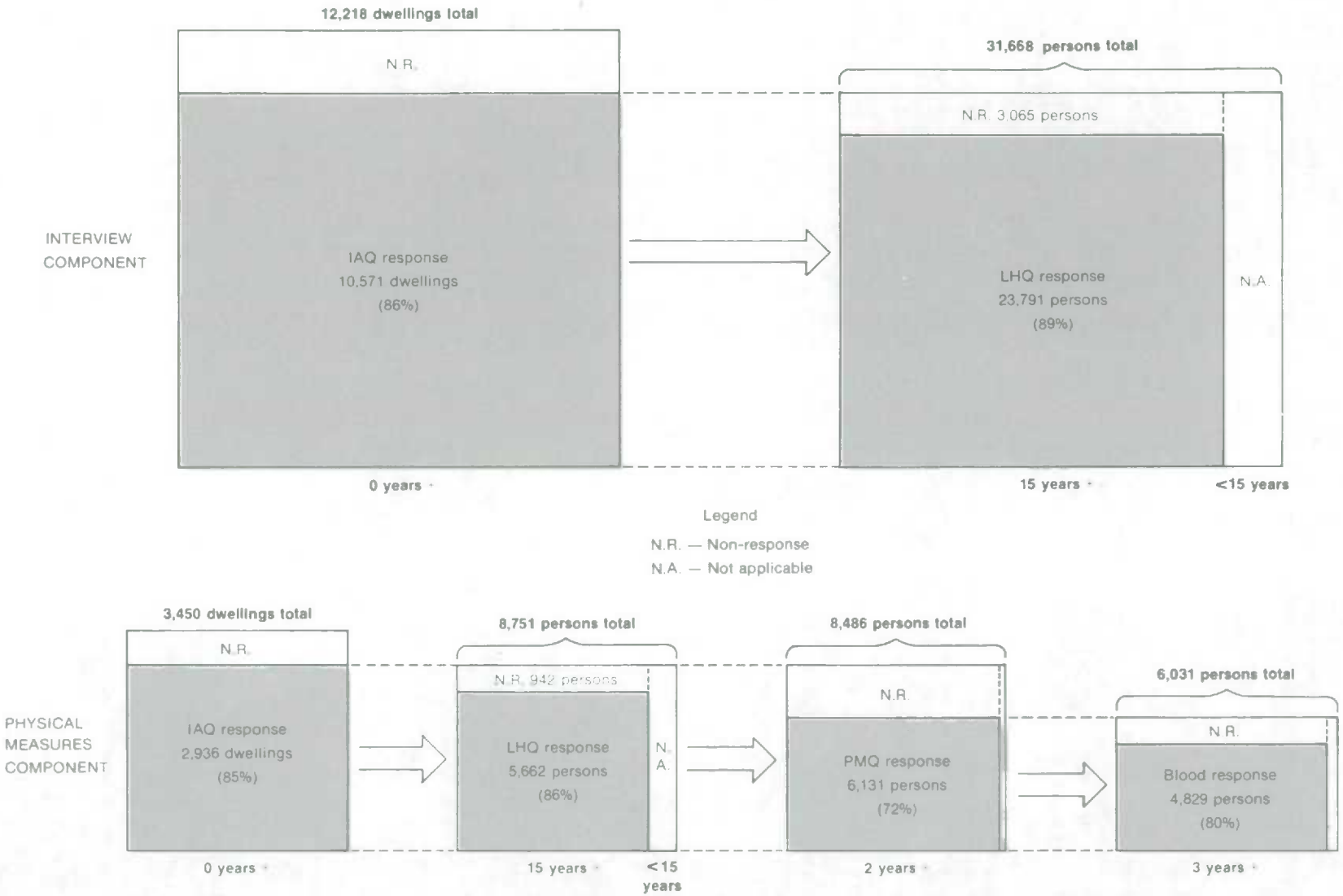
Questionnaire data were captured directly onto computer-readable files using 100% verification. Blood results were added to the survey file at a later date. Health conditions were coded by a central unit to the International Classification of Diseases (9th revision) and industry and occupation codes were added using procedures similar to the Canadian Labour Force Survey. Extensive editing was carried out on the survey file in order to identify and remove inconsistencies. This was particularly intensive for the IAQ and selected physical measurement data.

All non-response, as well as inconsistent data which could not be resolved during the editing operation, was coded as "unknown". In general, no imputation was performed on the survey data file to replace these unknowns. Once the data had been cleaned in this manner, a number of summary or indicator variables were calculated for each person using data from the survey file. These derived variables, such as type of smoker, were added to the file, together with the related sampling weights and other sample design data which were required for producing the estimates presented in the tables of this report.

All tables in this report were produced from the survey file described above, which contained a single record for each person who responded to the survey. Table entries of popula-

Figure III

Response Magnitudes and Rates by Data Collection Component — Sample Only



tion counts and means were derived by a post-stratified ratio estimation method, using current projections of provincial populations by age and sex. These estimates, plus those of related sampling errors, were produced by a modified version of TPL.[6] All estimates of population counts reported in the tables are in thousands.

Data Limitations

Interpretation of the data presented in these tables has to take into account the methods used in their derivation. One common way of indicating how these methods affect the data is by reporting on the survey error and its two components of sampling error and non-sampling error. The first of these arises from the fact that the sample does not include every unit in the population and hence leads to a degree of uncertainty in any population estimates derived from the sample. However, the magnitude of this error can be estimated from the survey sample and is presented for each table cell in this report by means of three broad categories.

The first category is that where the estimated sampling error is equal to or greater than 40% of the cell entry, or the sample size is less than 15. In this case the cell entry is not printed. The second category is that where the sampling error is greater than or equal to 20% but less than 40% of the cell entry. In this case the cell entry is printed, but with a shaded background. The last category is that where the sampling error is less than 20% of the cell entry. This is printed without any shading. In addition, sampling errors were used to calculate the statistical significance of differences under comparison in the analysis of data. Thus, when findings are reported as significantly different, it means that the probability that the differences are due to chance alone is 5% or less.

Non-sampling errors cover all types other than those due to sampling. They arise from a wide range of sources and include errors due to coverage, measurement, non-response, processing and estimation. While every effort was made to minimize these errors in the survey, they inevitably will be present to some degree in the data and will affect its interpretation. Non-response errors, unlike most other non-sampling errors, are easy to identify and this survey has adopted an adjustment strategy for handling non-response in this report. In order to understand this adjustment and how it may affect the data presented in these tables, it is necessary to describe five levels at which non-response can take place in the survey, as well as the adjustment at each level.

The first level of non-response is at the dwelling or household level. Adjustment was made for it by means of the sampling weights. This essentially resulted in non-responding households being replaced conceptually by an "average" household determined from all those households which responded within the same cluster and month. Adjustment for the second level of non-response, that of persons for whom responses only occurred on the HRC, was done by excluding these persons from the survey file. The numbers excluded were so low that the effect on the survey results in this report is negligible.

The third level of non-response was at the form level, where "form" in this context refers to the LHQ, PMQ and Blood. This non-response arose from persons who responded to the IAQ, but who did not provide a valid response to at least one compulsory item on one of the forms LHQ, PMQ or Blood. Adjustment for form level non-response was made by increasing the sampling weights within each province-stratum-age-sex group by a factor which was the inverse of the group's weighted response rate. Essentially, this is equivalent to the assumption that respondents and non-respondents within each group are similar with respect to health-related data. A study of form non-response indicated that respondents to the LHQ, PMQ and Blood tended to be slightly less healthy, as revealed by IAQ data, than non-respondents. However, this difference was sufficiently small that, for this report, adjustment for form non-response using the method described was used as the best of the alternatives available.

The magnitude of the form level non-response by age-sex group is given in Figure IV. Whereas Figure III reports on the sample response rates alone, Figure IV reports on response rates estimated for the survey population. These latter response rates are used since it is the impact of this non-response on the population estimates given in this report which is important. As well as indicating the magnitude of the adjustment carried out for the form level non-response, Figure IV also identifies other interesting relationships. For example, for persons 15 years and older, females almost always have a higher response rate than males to any of the three "forms". Furthermore, for these persons form response rates are relatively independent of age group.

The fourth and fifth levels of non-response cover partial non-response within a form. The fourth level is called section non-response and identifies the situation where all data items within a section of a form, such as the alcohol section within the LHQ, have been classified as unknown. The fifth level is called variable non-response and describes the situation where a single data item within a section is unknown, but not all the other items within that section. No adjustment has been made for these last two levels of non-response and their magnitudes are reported in the following chapters on the survey findings in two ways. Firstly, the relevant section level non-response as well as the range of the variable level non-response is given at the start of each chapter. Secondly, in each table the combined value of the two levels of non-response is displayed under the heading "unknown".

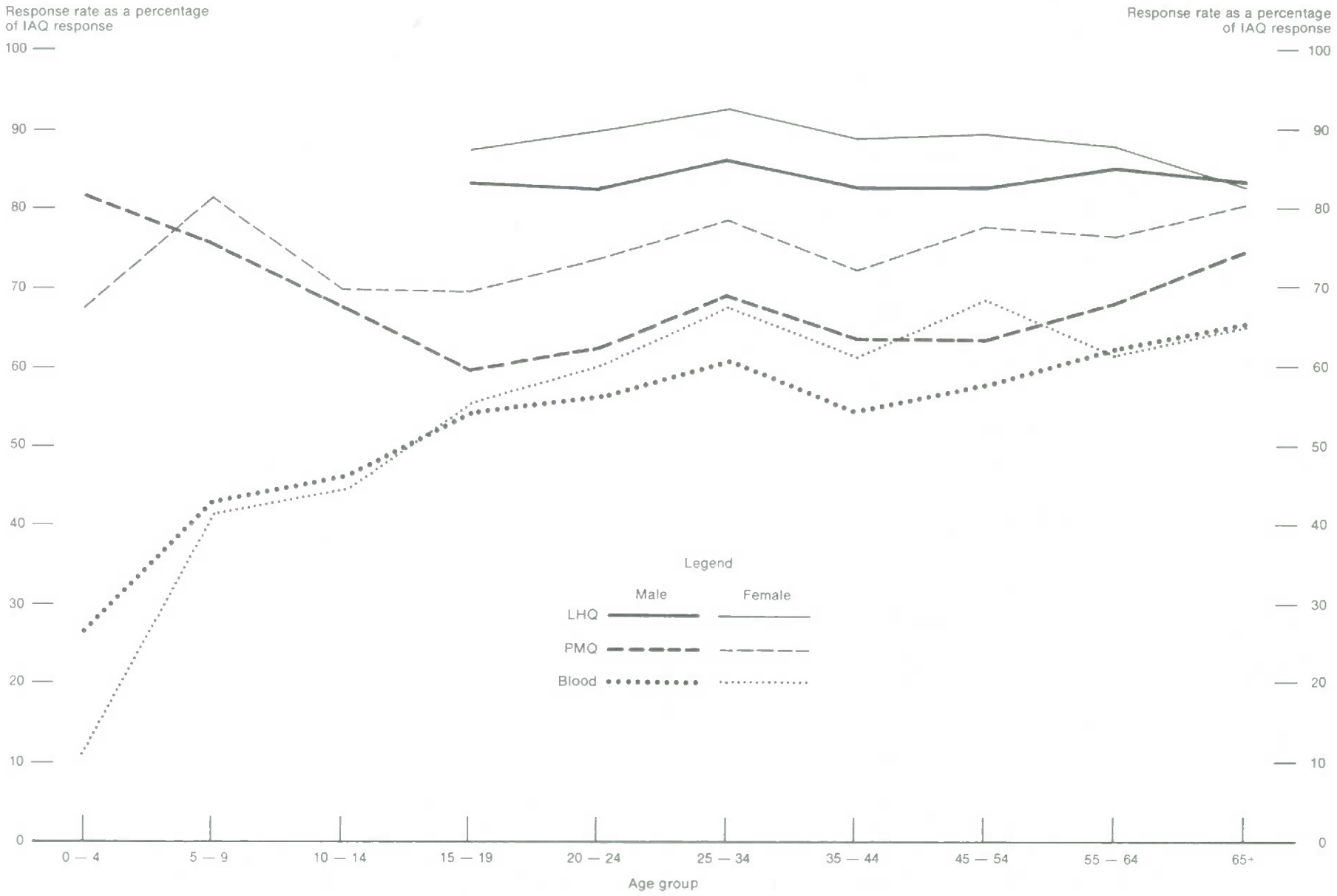
Summary of Findings

The Canada Health Survey was intended to answer three major questions:

- Who is exposed to the risk of future illness?
- What is the current health status of the population?
- What is the impact of illness?

Figure IV

Response Rates by Age Group and Sex — Population Estimates



In the 10 chapters of findings which make up the bulk of this report, these questions are answered in as much detail as permitted by the sample size and other inherent limitations of a cross-sectional population survey. In this overview, brief answers are given, concentrating on findings associated with differences in age, sex and social status.

With respect to differences due to age, there is often ambiguity in the interpretation of data collected at a single point in time. On the one hand, differences between age groups (e.g., the fact that older people report more health problems) may be due to aging per se, that is, the effects of passing years. On the other hand, such differences (e.g., the higher proportion of current drinkers, in younger ages) may be generational in nature. It is reasonable to assume that aging accounts for most of the difference in health status, when the report describes a relationship with age, while generational differences are particularly relevant to lifestyle. No doubt, there is an aging effect and a generational effect combined whenever age comparisons are made, and there may be other factors, such as income and employment status, which play a role because they tend to be associated with age.

Risk Exposure

Exposure to known risks today means the likelihood of illness or injury sometime in the future. The Canada Health Survey (CHS) focused on lifestyle risks, and found differences between the sexes consistent with the higher rates of mortality for men: males smoke more and consume more alcohol than females, and the differences are most marked for the heavier levels of consumption, since four times as many men as women are heavy drinkers and twice as many are heavy smokers. Moreover, heavier drinkers are more likely to be heavier smokers. However, women are less physically active than men, on the whole, while those of them who use contraceptive pills are as apt to smoke, despite the elevated risk of cardiovascular problems, as those not on the Pill.

Perhaps most striking is the manner in which sex differences in the lifestyle risks change with age: male-female differences in alcohol use, smoking and activity are consistently smaller amongst the younger age groups (below age 25). Amongst the older groups, the contrasts become marked. Only time will tell whether this equality of the sexes in risk exposure among the young will persist as they age, but it is consistent with other current social trends.

Risk exposure is not equal for all social statuses, any more than it is for both sexes or all ages. Smoking is more common amongst the young, the less educated, the unemployed, and blue-collar workers. In contrast, alcohol use is more typical of the more educated, the employed, especially those in managerial/ professional occupations, and of the higher income brackets. Like smoking, alcohol use is more common in younger age groups.

Health Status

In general terms, females report more frequent physical and emotional health problems and higher rates of disability than males. About twice as many women as men have sufficiently high cholesterol to cause concern, while there is more frequent high blood pressure amongst men.

Reports of health problems become more frequent as age increases (although preschoolers also tend to have a disproportionate share of problems). Overall, about half the population reports at least one health problem. However, well over half of those with elevated blood pressure as measured during the survey do not report that they are suffering from hypertension.

While the overall prevalence of problems does not vary greatly with differences in social status, lower income groups do report in disproportionate numbers certain conditions: mental disorders, heart disease, bronchitis and emphysema, hearing and sight disorders, diabetes, arthritis and rheumatism, and hypertension. Psychological well-being is more commonly reported amongst the higher income and more educated groups, while emotional distress is more frequently reported for lower levels of income and education.

While the causal links between risk factors and health status cannot be examined with data from one point in time, there are clear patterns of relationships with physical activity: compared to sedentary people, the active ones have better fitness ratings and lower blood pressure, and report more positive psychological well-being.

The Impact of Illness

The principal measures of impact in the CHS were short-term disability, continuing limitations on activity and the use of health care services and medication.

In the year beginning May 1978, illness affected Canadians such that they had to cut down on normal activity an average of 15.7 days. Continuing limitations on activity due to health problems affected one person in eight in the population.

Although only about half of all reported problems have any discernible impact, the consequences of illness which do occur are distributed in a similar fashion as the problems themselves, that is, disproportionately higher for women and the aged. The use of health care services in the absence of an identified problem is somewhat higher amongst higher income groups, probably reflecting greater use of preventive services rather than rehabilitative ones.

Two accepted preventive measures for women are the Pap smear and the breast examination. Both are used more frequently by more-educated women. Neither appears to be well-known by the female population.

Summary

In general terms, it is the young, male and the less-educated Canadian who is risking future health by current lifestyle. The problems reported in the survey, and the impact which follows them, touch the elderly, women and the poor. But, since males and females converge in their exposure to risks in the younger years, there may be important changes in the future in the patterns of illness. It seems reasonable to conclude that health promotion, prevention and protection will be important in the years to come. Further, the health care of the elderly and the poor will continue to be important. This is particularly the case in light of the overall aging of the Canadian population.

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1 See, for example, Chapters I and III of B.L. Ouellet, *Health Field Indicators — Canada and Provinces*. Ottawa: Department of National Health and Welfare, 1979.

2 *Nutrition: A National Priority*. A Report by Nutrition Canada to the Department of National Health and Welfare. Ottawa: Information Canada, 1973. This and 10 provincial reports provide the major findings of a nutrition survey carried out in 1970-1972.

3 Lalonde, M. *A New Perspective on the Health of Canadians*. Ottawa: Government of Canada, 1974. In essence, this perspective focuses on the need for the individual and society to take responsibility for avoiding health problems by reducing lifestyle, biomedical and environmental hazards. Further, it acknowledges that there is a positive element to health, being dissatisfied with a definition which goes no further than "an absence of disease". Finally, and in keeping with the individualistic orientation, it recognizes the importance of morbidity which is self-treated or self-limiting, and the importance of measuring the personal cost of ill-health.

4 Romeder, J.M. and McWhinnie, J.R. Potential years of life lost between ages one and 70: an indicator of premature mortality for health planning. *International Journal of Epidemiology*, 1977, Vol. 6, pp. 143-151. See *Health Field Indicators* (footnote 1) for several applications of this concept.

5 Health Care Research Unit, University of Ottawa and Ottawa-Carleton Regional District Health Council Planning Program. *Ottawa-Carleton Health Survey*. Ottawa, 1979.

6 TPL stands for Table Producing Language, a computer program developed by the Bureau of Labor Statistics, United States Department of Labor, for retrieving and processing information from computer storage.

Chapter I

Alcohol Use

ALCOHOL USE

Highlights

- A large majority (80%) of Canadians 15 years of age and over drink alcohol at least occasionally, and 12% of the population have 14 or more drinks per week. Among those having 14 or more drinks per week, men outnumber women four to one.
- Regular consumption of alcohol is most prevalent among high income and high occupational status groups.

Methods

Information on alcohol consumption was collected from persons 15 years of age and over on the self-administered questionnaire. Respondents were asked to complete the questionnaire and place it in the envelope provided; assurances were given about the confidentiality of the data. Nevertheless, there was no control over the household setting when the questionnaires were completed and the presence of other family members may have influenced responses, especially for 15-19 year olds and heavier users of alcohol. While the survey provides no direct evidence on the subject, under-reporting of alcohol consumption, particularly for these groups, is suspected.

Although the range of data on alcohol consumption that can be collected by means of a household survey is necessarily limited, the Canada Health Survey has used the best available household survey strategies for collecting alcohol consumption data, including the use of short recall periods and value-neutral questions.[1] (The questions on alcohol use that were asked on the self-administered questionnaire are on pages 214 and 215 of Appendix I.) A response rate of 84% was achieved for the alcohol consumption section, a very high rate when compared to other alcohol consumption surveys.

Of the 16% non-response for this section, 14% was non-response to the entire self-administered questionnaire, and the additional 2% skipped the alcohol section. A further proportion, ranging from less than 1% to about 8%, depending on the question, skipped particular questions in the alcohol section. The 14% of people who did not respond to the self-administered questionnaire have been distributed proportionately across the response categories and the population estimates shown in the tables have been adjusted accordingly. Further discussion of this procedure can be found in the Overview. Non-response to the alcohol section and particular questions about alcohol use are combined into a single "unknown" category in each table.

Results

Basic Facts About Alcohol Use

A basic classification used in this report to describe alcohol consumption patterns of adult Canadians is type of drinker. This classification and the distribution of responses are shown in Text Table I.

TEXT TABLE I. Type of Drinker

	Per cent distribution
Total	**100**
Never drank	12
Former drinker (used to drink alcohol, but has had no alcoholic drinks in the last 12 months	4
Occasional drinker (drinks alcohol less often than once a month, but has had alcoholic beverages within the last 12 months)	15
Current drinker (drinks alcoholic beverages at least once a month)	65
Type of drinker unknown	4

Current drinkers are further classified according to the volume of alcohol consumed in the last seven days. Weekly volume is reported in categories of 0 drinks, 1-6 drinks, 7-13 drinks, 14 or more drinks.

There are substantial variations by age and sex in alcohol consumption patterns as measured by "type of drinker" and "weekly volume of alcohol consumed". Table 1 shows that the majority of the adult population (65%) drinks alcoholic beverages at least once a month. The proportions of current drinkers are highest for 20-24 year olds (79%) and 25-44 year olds (73%). At every age, men who are current drinkers outnumber women in the same category by a considerable margin. However, under 45 years of age, male current drinkers outnumber female current drinkers by a margin of 25%, while over 45, the margin increases to 42%.

Not only are men much more likely than women to be regular consumers of alcohol, they are also much more likely to drink more heavily. While this is true of all age groups, heavy drinking is relatively more frequent for both men and women under age 45 than for persons over 45. In the age group 20-24, 31% of men and 8% of women have 14 or more drinks per week, while only 10% of men and 2% of women 65 and over consume 14 or more drinks per week.

In addition to variations by age and sex, alcohol consumption patterns show marked variation by major activity and region. Table 2 shows that 77% of the working population drinks alcoholic beverages once a month or more frequently, while smaller proportions, 50% in each case, of homemakers and retired persons are current drinkers. Not only are working people more likely to be current drinkers, they are also proportionately the most frequent consumers of 14 or more drinks per week. The same patterns exist in all age and sex groups (data not shown).

While this tendency for the working population to be most frequently current drinkers and the heaviest drinkers exists in all

regions, there are substantial differences in alcohol consumption from region to region. The proportion of current drinkers in the population increases steadily from east to west, from 55% in the Atlantic provinces to 73% in British Columbia. The proportion of current drinkers who consume 14 or more drinks per week increases in similar east-to-west fashion, from 15% in the Atlantic provinces to 23% in British Columbia.

Further classification of regional drinking patterns by sex, shown in Figure V, reveals that women, rather than men, show the most variability in their drinking patterns from region to region.

Information on the age at which people began drinking alcohol regularly is useful in determining exposure to risk from prolonged drinking and for identifying beginning drinkers as appropriate target groups for education programs promoting the moderate use of alcohol. This information is shown by age and sex for current drinkers in Table 3. Among current drinkers, 38% report beginning to drink before age 18 — the minimum legal drinking age in any Canadian province. However, there are substantial differences by age and sex. For persons under 25, 77% of men and 72% of women report beginning drinking regularly before age 18, while only 32% of men and 16% of women 25 and over report that they began to drink before age 18.

A note of caution must be introduced into the interpretation of the data in Table 3. Eight per cent of the people who answered at least some questions in the alcohol section did not answer the question about the age at which drinking began. While the age drinking began apparently increases with current age, so does the level of non-reporting, rising from 4% for 20-24 year olds to 23% for those 65 years of age and over. Either the recollection of the age at which drinking began becomes more difficult with advancing years, or the willingness to report this information diminishes.

Other important basic information about the drinking patterns of Canadians concerns the frequency of consumption of alcoholic beverages. Frequency of drinking according to community size and sex is displayed in Table 4. About half of current drinkers drink from one to six times per week, while a further 15% drink at least once per day. About three times as many men as women drink at least once per day. This sex difference is about the same for all community-size groups. However, there is substantial variation in frequency of drinking according to community size. The proportion of current drinkers drinking at least once per day ranges from a low of 11% in communities of less than 100,000 inhabitants to a high of 20% in communities of one million or more population.

Drinking and Social Status

Other surveys have shown that drinking patterns vary according to traditional measures of social status — education, income and occupation.[2] The relationship of alcohol consumption to these three measures of social status is examined in this section.

There appears to be a consistent positive relationship between drinking patterns and education, for each age group, as shown in Table 5. The proportions of the population who are current drinkers, and who have seven or more drinks per week, are generally higher for higher levels of education. While these relationships are consistent for all age groups, only one is statistically significant. Teenagers who are no longer in school are significantly more likely to be current drinkers, and to have seven or more drinks per week, than their age peers who are still in school.

The relationship between alcohol consumption patterns and income is shown in Table 6. The measure of income used is economic family income quintiles. Each respondent has been assigned the total income for his family, appropriately weighted by family size and community size. The distribution thus produced is then divided into five parts called quintiles, each containing 20% of the total distribution. The lowest incomes are in the first quintile and the highest fall in the fifth quintile. Table 6 shows that those with higher incomes are much more likely to be current drinkers than those with lower incomes. Men and women with incomes in the fourth and fifth quintiles are significantly more likely to be current drinkers than men and women in the first, second and third income quintiles. However, there are no clear variations in either of the categories of weekly volume of alcohol consumed by current drinkers according to income.

Drinking status also varies according to occupation and employment status. Table 7 shows that those who are employed are significantly more likely to be current drinkers than either the unemployed[3] or those not in the labour force. This is the case for both men and women. Further analysis (not shown) also revealed this is was the case for all age groups. Among employed persons, those in managerial and professional occupations are significantly more likely to be current drinkers than those in other white collar occupations or those in blue collar occupations.[4] Thus, the prevalence of regular alcohol consumption tends to increase with occupational status.

Drinking and Health Status

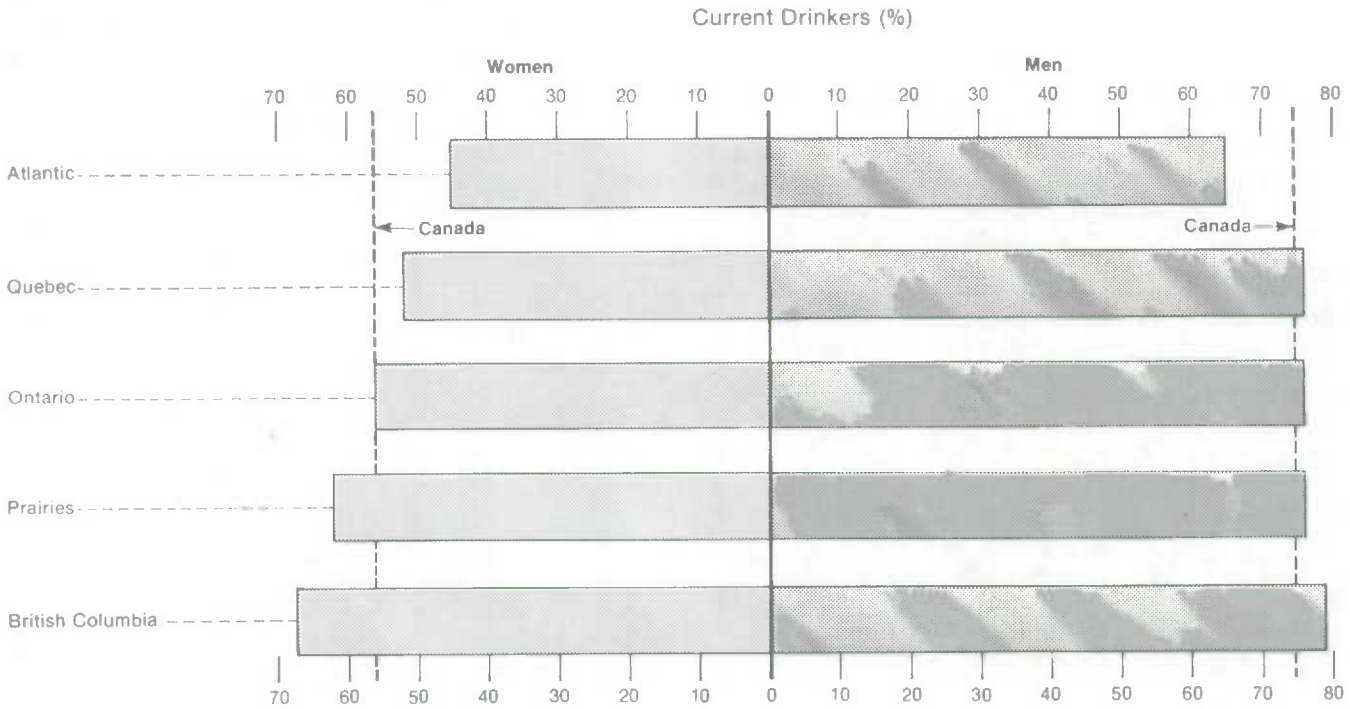
The Canada Health Survey contains a variety of measures of physical and emotional health status and associated behaviour. In this section, three of these measures — drug use, selected behaviours related to ill health, and emotional health as measured by Affect Balance Scale scores — are examined in relation to alcohol consumption.

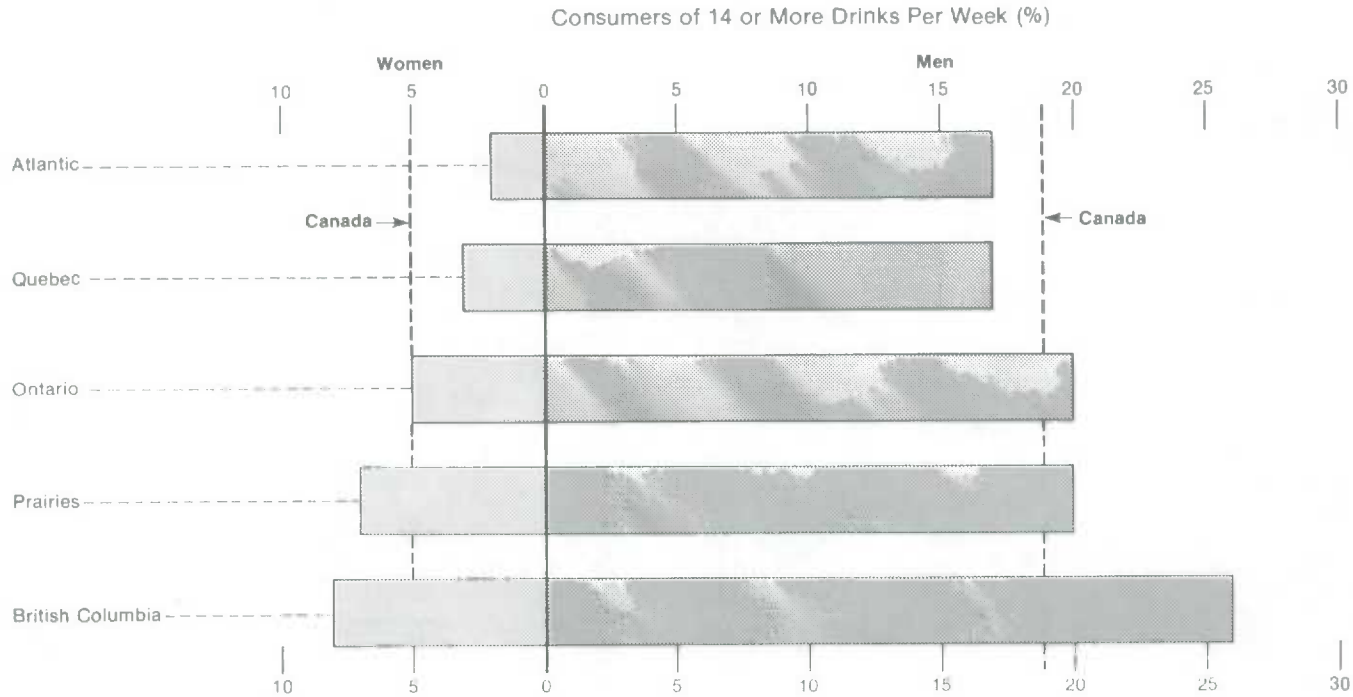
Table 8 shows the relationship of type of drinker to the use of selected categories of drugs[5] in the last two days. No significant differences are found in the proportions of current drinkers between those taking no drugs and those taking pain relievers or cold remedies. However, significantly fewer people taking tranquilizers and heart or blood pressure remedies are also current drinkers.

Table 9 shows type of drinker classified according to certain behaviours related to ill health, including the presence of disability days in the past two weeks, consultations with health professionals in the previous two weeks, drug use in the past two days, and long-term activity limitation. There are no significant differences in the proportions of current drinkers between those experiencing these behaviours, and those experiencing none of them, for persons younger than 45. For

Figure V

Percentages of the Population Who Are Current Drinkers and Consumers of Fourteen or More Drinks Per Week, by Sex, Canada and Regions, 1978-79





those 45 and over, however, there are significantly greater proportions of current drinkers among those with none of these behaviours than among those experiencing disability days, visits to health professionals, drug use or activity limitation. In other words, for persons 45 and over, current drinkers are less likely to report behaviours related to ill health. The same general patterns were observed for both sexes (data not shown).

One measure of emotional health used in this survey is the Affect Balance Scale. It reports overall emotional health in three categories — positive, mixed and negative. (Further information on the derivation of this scale and other measures of emotional health can be found in Chapter VII.) Affect Balance Scale scores classified according to type of drinker are shown in Table 10. While the relationships are not statistically significant except for the age group 20-24, those with positive Affect Balance Scale scores are more likely to be current drinkers than those with negative scores. This pattern holds true for every age group except 15-19, where the relationship is reversed. Further analysis (not shown) revealed similar patterns for both sexes.

Discussion

Some comparisons can be made between the Canada Health Survey results regarding alcohol consumption and a 1976 survey on the same subject.[2] The 1976 survey reported that 81% of the adult population — 86% of men and 77% of women — drank alcohol once a year or more often. When Canada Health Survey data are adjusted for the unknowns to make them comparable, they indicate that 84% of the adult population, 88% of men and 80% of women, drink alcohol once a year or more often. Differences in results of the two surveys may be due as much to methodological differences as to real increases in the proportions of alcohol consumers from 1976 to 1978. In any case, the proportion of the adult population consuming alcohol, at least occasionally, remains very high indeed.

Examination of the basic demographic facts about alcohol consumption from the Canada Health Survey reveals that for every age group, men are much more likely than women to be current drinkers, and to be heavier and more frequent consumers of alcohol. Given these general differences in alcohol consumption by sex, however, there exist substantial differences by age. Current drinkers are much more numerous in younger age groups, as are consumers of larger volumes of alcohol. At younger ages, the alcohol consumption patterns of women are more similar to those of men. The numbers of current drinkers and the numbers of heavy consumers of alcohol are proportionately higher in the Western provinces. In addition, the drinking patterns of women are more similar to those of men in Western provinces than in Eastern provinces. Alcohol use occurred with proportionately greater frequency in larger urban centres than in smaller ones or rural areas.

While 14 or more drinks per week is the highest category of consumption shown in this report, it is not necessarily a hazardous level of consumption. The threshold of hazardous drinking is known to vary according to volume and frequency of drinking, weight, drinking history and a variety of other individual characteristics. Only very high levels of consumption, of the order of 40 or more drinks per week, much higher than the 14 or more per week reported here, are unequivocally hazardous to health.[6] Consumption of 40 or more drinks per week was very rarely reported by survey respondents.

On the other hand, it has also been found that the higher the overall level of alcohol consumption in a given population, the higher the level of alcoholism in that population.[7] In the light of this latter relationship, the high proportion of young adults consuming 14 or more drinks per week is a cause for some concern, particularly if drinking patterns established early in life remain more or less constant for a long period of time.

Various measures of social status show clear relationships to patterns of alcohol use.

While education, income and occupation are interrelated, each shows a different relationship to alcohol use. While a high prevalence of regular alcohol use is consistently associated with higher levels of education, this relationship is not statistically significant. However, the prevalence of alcohol use is significantly associated with higher income and occupational status. While the proportion of the population who are current drinkers appears to increase with social status, no clear relationship exists between the weekly volume of alcohol consumed by current drinkers and the various measures of social status.

Generally speaking, the CHS results and those of the 1976 survey[2] show strongly similar patterns when the distribution of users is examined. Both surveys are in agreement that alcohol use is higher in Western Canada, amongst higher income groups and education levels, in managerial occupations, and in larger communities.

When alcohol consumption patterns were compared to measures of physical and emotional health, they indicated moderate use of alcohol to be associated with somewhat better physical and emotional health particularly for persons 45 and over. At first glance, this finding appears to contradict other epidemiological evidence that demonstrates hazardous alcohol consumption to be related to increased risk of illness or death.[6] However, hazardous drinking as defined in these studies (40 or more drinks per week) is not adequately measured by data presented in this section. Rather, Canada Health Survey data are better adapted to measuring varying degrees of moderate alcohol consumption. In addition, many of the serious consequences of alcohol consumption arise only after a long period of time. The cross-sectional nature of the Canada Health

Survey is not amenable to the measurement of these longitudinal relationships. Similarly, the cross-sectional nature of the data does not permit causal inference. While relationships of alcohol use to physical and emotional health are observed, no conclusions can be drawn about which is cause and which is effect.

However, the findings indicating that moderate use of alcohol may have some association with good health are corroborated by other studies.[8] One possible explanation for this finding is that moderate use of alcohol is related to the degree of social integration, which in turn has been found to be independently related to good health.[9]

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1 For a detailed discussion of the collection of alcohol consumption data, see: Pernanen, K., Validity of survey data on alcohol use, in Gibbons, R.J. et al. (eds.), *Research Advances in Alcohol and Drug Problems, Volume 1,* New York: Wiley, 1974, and Room, Robin, The Measurement and Distribution of Drinking Patterns and Problems in General Populations, (mimeographed).Berkeley: University of California, 1975.

2 McGregor, Betty, *Alcohol Consumption in Canada — Some Preliminary Findings of a National Survey in November-December 1976:* Ottawa. Non-Medical Use of Drugs Directorate, Department of National Health and Welfare, July 1978 (based upon data collected from the Canada Facts Monitor).

3 The unemployment rate of 10.6% which can be calculated from Table 7 is greater than the 8.3% estimated unemployment rate published by Statistics Canada for November, 1978 *(The Labour Force,* November 1978, Statistics Canada, Catalogue 71-001), the midpoint of Canada Health Survey data collection. This difference is mainly accounted for by different definitions. In the Labour Force Survey, unemployed persons are defined as those who looked for work in the past four weeks while in the Canada Health Survey they are defined as those who looked for work in the past year. Adjustment of the Labour Force Survey data to take this definitional difference into account yields an unemployment rate of 10.9%, quite close to the estimate of 10.6% from the Canada Health Survey.

4 Occupations were coded according to the Canadian Classification and Dictionary of Occupations and grouped in the following manner:

Managerial and professional occupations:
Managerial, administrative and related occupations. Natural sciences, engineering and mathematics. Social sciences and related fields. Religion. Teaching and related fields. Medicine and health. Artistic, literary, recreational and related occupations.

Other white collar occupations:
Clerical. Sales. Service.

Blue collar occupations:
Farming and related fields. Fishing, hunting, trapping. Forestry and logging. Mining and quarrying. Processing. Machining and related fields. Product fabricating, assembling and repairing. Construction. Transportation. Materials handling and related fields. Other crafts. Other occupations.

5 For more information on alcohol and drug interaction see "The Dangerous Equations" pamphlet, Department of National Health and Welfare, 1976. For an extensive bibliography, see *Interaction of Alcohol and Other Drugs, Second Edition* (revised). Toronto: Ontario Addiction Research Foundation, 1972.

6 Ouellet, B.L., Romeder, J.M., and Lance, J.-M. *Premature Mortality Attributable to Smoking and Hazardous Drinking in Canada — Volume I: Summary.* Ottawa: Long Range Health Planning Branch, Department of National Health and Welfare, 1977.

7 *Alcohol Control Policies in Public Health Perspective,* A Collaborative Project of the Finnish Foundation for Alcohol Studies, WHO Regional Office for Europe and the Addiction Research Foundation of Ontario, 1975.

8 See, for example, Belloc, N.B., Relationship of health practices and mortality, *Preventive Medicine,* 1973, Vol. 2, pp. 67-81, and Belloc, N.B. and Breslow, L., Relationship of physical health status and health practices, *Preventive Medicine,* 1972, Vol. 1, pp. 409-421.

9 Berkman, L.F., and Syme, L.S., Social networks, host resistance, and mortality: a nine-year follow-up study of Alameda County residents, *American Journal of Epidemiology,* 1979, Vol. 109, pp. 186-204.

TABLE 1. Population 15 Years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Age and Sex, Canada, 1978-79

		Type of drinker										
		Total	Never drank	Former drinker	Occasional drinker	Current drinkers and weekly volume of alcohol consumed						Type of drinker unknown
						Total	Less than one drink	1-6 drinks	7-13 drinks	14 drinks and over	Weekly volume unknown	
		in thousands										
Age 15 and over:												
Both sexes	No.	17,492	2,008	653	2,642	11,418	1,352	4,585	2,306	2,092	1,082	771
	%	100.0	11.5	3.7	15.1	65.3	7.7	26.2	13.2	12.0	6.2	4.4
Male	No.	8,584	584	377	841	6,453	580	2,137	1,467	1,667	603	329
	%	100.0	6.8	4.4	9.8	75.2	6.8	24.9	17.1	19.4	7.0	3.8
Female	No.	8,907	1,424	276	1,801	4,965	772	2,448	839	425	480	442
	%	100.0	16.0	3.1	20.2	55.7	8.7	27.5	9.4	4.8	5.4	5.0
15-19:												
Male	No.	1,187	188	16	163	721	120	267	132	149	52	100
	%	100.0	15.8	1.3	13.7	60.7	10.1	22.5	11.2	12.6	4.4	8.4
Female	No.	1,146	238	36	212	597	105	272	116	63	41	62
	%	100.0	20.8	3.1	18.5	52.1	9.1	23.7	10.2	5.5	3.6	5.4
20-24:												
Male	No.	1,106	38	23	63	965	81	283	230	343	28	18
	%	100.0	3.4	2.1	5.7	87.2	7.3	25.5	20.8	31.0	2.5	1.6
Female	No.	1,108	79	29	187	789	147	403	131	90	18	24
	%	100.0	7.2	2.6	16.9	71.1	13.2	36.4	11.8	8.1	1.6	2.2
25-44:												
Male	No.	3,230	109	114	318	2,626	188	910	628	699	202	63
	%	100.0	3.4	3.5	9.8	81.3	5.8	28.2	19.4	21.6	6.2	1.9
Female	No.	3,242	270	91	719	2,073	318	1,106	355	162	132	89
	%	100.0	8.3	2.8	22.2	63.9	9.8	34.1	10.9	5.0	4.1	2.8
45-64:												
Male	No.	2,174	122	136	175	1,664	131	554	371	390	217	77
	%	100.0	5.6	6.2	8.1	76.5	6.0	25.5	17.1	18.0	10.0	3.6
Female	No.	2,279	449	74	438	1,174	146	550	195	93	191	144
	%	100.0	19.7	3.2	19.2	51.5	6.4	24.1	8.6	4.1	8.4	6.3
65 and over:												
Male	No.	887	127	89	122	478	60	124	105	85	104	71
	%	100.0	14.3	10.0	13.8	53.9	6.7	13.9	11.9	9.6	11.8	8.0
Female	No.	1,132	388	45	245	332	57	117	42	18	97	122
	%	100.0	34.2	4.0	21.6	29.3	5.0	10.4	3.7	1.6	8.6	10.8

TABLE 2. Population 15 Years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Major Activity, Canada and Regions, 1978-79

Major activity		Type of drinker										
		Total	Never drank	Former drinker	Occasional drinker	Current drinkers and weekly volume of alcohol consumed						Type of drinker unknown
						Total	Less than one drink	1-6 drinks	7-13 drinks	14 drinks and over	Weekly volume unknown	
		in thousands										
Canada:												
Total	**No.**	**17,492**	**2,008**	**653**	**2,642**	**11,418**	**1,352**	**4,585**	**2,306**	**2,092**	**1,082**	**771**
	%	**100.0**	**11.5**	**3.7**	**15.1**	**65.3**	**7.7**	**26.2**	**13.2**	**12.0**	**6.2**	**4.4**
Working	**No.**	**9,114**	**535**	**303**	**1,049**	**6,993**	**633**	**2,724**	**1,536**	**1,542**	**558**	**235**
	%	**100.0**	**5.9**	**3.3**	**11.5**	**76.7**	**6.9**	**29.9**	**16.9**	**16.9**	**6.1**	**2.6**
Housework	**No.**	**4,240**	**753**	**159**	**963**	**2,117**	**346**	**1,008**	**338**	**155**	**270**	**248**
	%	**100.0**	**17.8**	**3.8**	**22.7**	**49.9**	**8.2**	**23.8**	**8.0**	**3.6**	**6.4**	**5.8**
School	**No.**	**2,209**	**406**	**42**	**360**	**1,258**	**227**	**550**	**224**	**190**	**67**	**142**
	%	**100.0**	**18.4**	**1.9**	**16.3**	**57.0**	**10.3**	**24.9**	**10.1**	**8.6**	**3.0**	**6.4**
Retired	**No.**	**1,359**	**256**	**111**	**199**	**673**	**91**	**187**	**146**	**109**	**141**	**120**
	%	**100.0**	**18.8**	**8.2**	**14.6**	**49.5**	**6.7**	**13.7**	**10.7**	**8.0**	**10.4**	**8.9**
Other	**No.**	**571**	**59**	**38**	**71**	**377**	**55**	**116**	**63**	**97**	**46**	**26**
	%	**100.0**	**10.4**	**6.6**	**12.5**	**66.1**	**9.7**	**20.3**	**11.1**	**16.9**	**8.1**	**4.5**
Atlantic region:												
Total	No.	1,585	310	86	211	868	158	319	143	130	118	111
	%	100.0	19.6	5.4	13.3	54.7	9.9	20.1	9.0	8.2	7.4	7.0
Working	No.	712	67	38	83	489	76	175	94	90	55	34
	%	100.0	9.4	5.4	11.7	68.7	10.6	24.5	13.3	12.6	7.7	4.8
Housework	No.	426	130	16	73	170	41	79	19	5	27	38
	%	100.0	30.4	3.7	17.0	39.9	9.6	18.6	4.3	1.1	6.3	8.9
School	No.	198	68	6	31	74	17	29	11	9	7	18
	%	100.0	34.4	2.9	15.8	37.6	8.6	14.7	5.8	4.8	3.8	9.3
Retired	No.	138	33	18	14	60	11	15	8	7	19	13
	%	100.0	23.9	13.1	10.1	43.6	8.0	11.0	5.5	5.3	13.9	9.3
Other	No.	112	13	8	10	74	13	21	11	19	10	7
	%	100.0	11.2	7.1	9.2	65.9	11.5	16.5	9.7	17.1	9.1	6.6
Quebec:												
Total	No.	4,759	507	152	880	3,017	375	1,383	513	479	267	203
	%	100.0	10.6	3.2	18.5	63.4	7.9	29.1	10.8	10.1	5.6	4.3
Working	No.	2,333	106	60	326	1,789	143	803	345	355	143	51
	%	100.0	4.5	2.6	14.0	76.7	6.1	34.4	14.8	15.2	6.1	2.2
Housework	No.	1,257	242	32	354	553	108	291	61	33	60	78
	%	100.0	19.2	2.6	28.2	43.9	8.6	23.1	4.9	2.6	4.8	6.1
School	No.	630	91	--	124	374	79	200	50	33	12	29
	%	100.0	14.4	--	19.7	59.4	12.6	31.8	7.9	5.3	1.9	4.7
Retired	No.	323	53	32	43	162	22	43	40	19	38	34
	%	100.0	16.4	9.9	13.1	50.1	6.7	13.4	12.4	5.7	11.8	10.4
Other	No.	215	15	16	33	139	23	46	17	39	15	12
	%	100.0	7.0	7.4	15.4	64.9	10.9	21.2	7.9	18.0	6.9	5.4

TABLE 2. Population 15 Years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Major Activity, Canada and Regions, 1978-79 – Concluded

Major activity		Type of drinker										
		Total	Never drank	Former drinker	Occasional drinker	Current drinkers and weekly volume of alcohol consumed						Type of drinker unknown
						Total	Less than one drink	1-6 drinks	7-13 drinks	14 drinks and over	Weekly volume unknown	
		in thousands										
Ontario:												
Total	No.	6,372	753	208	939	4,171	476	1,600	922	771	401	302
	%	100.0	11.8	3.3	14.7	65.4	7.5	25.1	14.5	12.1	6.3	4.7
Working	No.	3,525	246	95	412	2,678	255	994	631	594	204	94
	%	100.0	7.0	2.7	11.7	76.0	7.2	28.2	17.9	16.9	5.8	2.7
Housework	No.	1,408	226	61	316	714	102	322	133	51	105	91
	%	100.0	16.0	4.3	22.5	50.7	7.3	22.9	9.4	3.6	7.5	6.4
School	No.	803	156	..	116	456	85	184	90	63	35	65
	%	100.0	19.4	..	14.4	56.7	10.5	22.9	11.1	7.9	4.3	8.1
Retired	No.	514	107	35	79	242	27	70	56	47	42	50
	%	100.0	20.8	6.8	15.5	47.2	5.3	13.7	11.0	9.1	8.2	9.7
Other	No.	124	..	..	..	80	..	30	..	16	15	..
	%	100.0	..	..	..	65.0	..	24.2	..	12.6	12.0	..
Prairie region:												
Total	No.	2,857	278	122	411	1,957	195	795	409	390	169	89
	%	100.0	9.7	4.3	14.4	68.5	6.8	27.8	14.3	13.6	5.9	3.1
Working	No.	1,550	81	60	156	1,221	100	473	274	285	88	32
	%	100.0	5.2	3.9	10.1	78.7	6.5	30.5	17.7	18.4	5.7	2.1
Housework	No.	692	105	32	149	378	50	186	61	30	52	27
	%	100.0	15.1	4.7	21.5	54.7	7.2	26.9	8.7	4.4	7.5	4.0
School	No.	372	59	10	59	225	25	93	49	49	9	18
	%	100.0	16.0	2.7	16.0	60.6	6.7	25.1	13.2	13.1	2.5	4.7
Retired	No.	197	28	16	40	103	16	33	18	16	18	10
	%	100.0	14.3	7.9	20.6	52.4	7.9	16.9	9.4	8.4	8.9	4.8
Other	No.	47	..	..	..	30	..	..	..	10	..	..
	%	100.0	..	..	..	64.2	..	..	..	20.3	..	..
British Columbia:												
Total	No.	1,918	161	85	201	1,405	148	489	320	322	..	67
	%	100.0	8.4	4.4	10.5	73.2	7.7	25.5	16.7	16.8	..	3.5
Working	No.	995	34	50	71	816	59	279	191	218	..	24
	%	100.0	3.4	5.0	7.1	82.1	5.9	28.1	19.2	22.0	..	2.4
Housework	No.	457	51	18	71	301	45	130	65	35	26	15
	%	100.0	11.2	3.9	15.5	66.0	9.9	28.4	14.2	7.7	5.8	3.4
School	No.	206	32	..	29	129	21	44	24	35	..	..
	%	100.0	15.6	..	14.3	62.4	10.2	21.4	11.7	17.2	..	..
Retired	No.	188	35	11	22	106	15	25	24	19	23	..
	%	100.0	18.4	5.6	11.9	56.3	8.1	13.2	12.6	10.4	12.0	..
Other	No.	73	..	..	..	53	..	..	..	14	..	..
	%	100.0	..	..	..	72.7	..	..	..	18.5	..	..

TABLE 3. Population 15 Years and Over who are Current Drinkers of Alcohol by Age Drinking Began, by Current Age and Sex, Canada, 1978-79

		Age drinking began, current drinkers							
		Total	Less than 14 years	14-15 years	16-17 years	18-18 years	20-21 years	22 years and over	Unknown
		in thousands							
Age 15 and over:									
Total	**No.**	**11,418**	**443**	**1,385**	**2,575**	**2,678**	**1,847**	**1,527**	**963**
	%	**100.0**	**3.9**	**12.1**	**22.5**	**23.5**	**16.2**	**13.4**	**8.4**
Both sexes:									
Total	**No.**	**11,418**	**443**	**1,385**	**2,575**	**2,678**	**1,847**	**1,527**	**963**
	%	**100.0**	**3.9**	**12.1**	**22.5**	**23.5**	**16.2**	**13.4**	**8.4**
Male	**No.**	**6,453**	**316**	**879**	**1,632**	**1,551**	**967**	**636**	**472**
	%	**100.0**	**4.9**	**13.6**	**25.3**	**24.0**	**15.0**	**9.9**	**7.3**
Female	**No.**	**4,965**	**126**	**506**	**943**	**1,126**	**881**	**891**	**490**
	%	**100.0**	**2.6**	**10.2**	**19.0**	**22.7**	**17.7**	**17.9**	**9.9**
15-19:									
Male	No	721	102	262	244	54	-	-	59
	%	100.0	14.2	36.3	33.9	7.5	-	-	8.1
Female	No	597	66	225	205	47	-	-	54
	%	100.0	11.0	37.7	34.3	7.9	-	-	9.1
20-24:									
Male	No	965	81	211	393	225	17	..	34
	%	100.0	8.4	21.8	40.8	23.3	1.8	..	3.8
Female	No	789	33	135	327	233	28	-	26
	%	100.0	4.2	17.2	41.4	29.5	3.5	-	3.4
25-44:									
Male	No	2,626	94	292	718	763	427	193	140
	%	100.0	3.6	11.1	27.3	29.0	16.3	7.4	5.3
Female	No	2,073	16	124	343	636	511	314	127
	%	100.0	.8	6.0	16.6	30.7	24.7	15.2	6.1
45-64:									
Male	No	1,664	32	94	256	416	409	298	158
	%	100.0	1.9	5.7	15.4	25.0	24.6	17.9	9.5
Female	No	1,174	..	17	66	171	307	427	174
	%	100.0	..	1.5	5.6	14.6	26.2	36.3	14.8
65 and over:									
Male	No	478	..	21	20	94	113	141	81
	%	100.0	..	4.3	4.2	19.8	23.6	29.6	17.0
Female	No	332	..	..	..	39	35	143	108
	%	100.0	..	..	..	11.8	10.4	43.1	32.5

TABLE 4. Population 15 Years and Over who are Current Drinkers of Alcohol by Frequency of Drinking, by Community Size and Sex, Canada, 1978-79

Community size		Frequency of drinking, current drinkers							
		Total	At least once a day	4-6 times/ week	2-3 times/ week	Once a week	2-3 times/ month	About once a month	Unknown
		in thousands							
Total:									
Both sexes	**No.**	**11,418**	**1,676**	**1,069**	**2,410**	**2,423**	**1,881**	**1,511**	**447**
	%	**100.0**	**14.7**	**9.4**	**21.1**	**21.2**	**16.5**	**13.2**	**3.9**
Male	**No.**	**6,453**	**1,316**	**759**	**1,566**	**1,229**	**817**	**594**	**171**
	%	**100.0**	**20.4**	**11.8**	**24.3**	**19.1**	**12.7**	**9.2**	**2.6**
Female	**No.**	**4,965**	**360**	**310**	**844**	**1,193**	**1,064**	**917**	**277**
	%	**100.0**	**7.3**	**6.3**	**17.0**	**24.0**	**21.4**	**18.5**	**5.6**
Less than 100,000:									
Both sexes	No.	4,075	431	367	932	879	698	560	208
	%	100.0	10.6	9.0	22.9	21.6	17.1	13.7	5.1
Male	No.	2,369	344	287	623	497	300	228	89
	%	100.0	14.5	12.1	26.3	21.0	12.7	9.6	3.7
Female	No.	1,706	87	79	309	382	398	332	119
	%	100.0	5.1	4.6	18.1	22.4	23.3	19.5	7.0
100,000-999,999:									
Both sexes	No.	3,525	495	353	751	770	610	428	119
	%	100.0	14.0	10.0	21.3	21.8	17.3	12.1	3.4
Male	No.	1,924	388	244	486	360	253	155	38
	%	100.0	20.1	12.7	25.3	18.7	13.1	8.1	2.0
Female	No.	1,601	108	108	264	410	358	273	80
	%	100.0	6.7	6.8	16.5	25.6	22.3	17.0	5.0
1,000,000 and over:									
Both sexes	No.	3,818	750	350	727	773	573	522	121
	%	100.0	19.6	9.2	19.1	20.3	15.0	13.7	3.2
Male	No.	2,160	584	227	457	373	265	210	43
	%	100.0	27.1	10.5	21.2	17.2	12.3	9.7	2.0
Female	No.	1,658	166	123	270	401	308	312	78
	%	100.0	10.0	7.4	16.3	24.2	18.6	18.8	4.7

TABLE 5. Population 15 Years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Age and Education, Canada, 1978-79

Education		Type of drinker						
		Total	Occasional and non-drinkers	Current drinkers and weekly volume of alcohol consumed				Type of drinker unknown
				Total	Less than 7 drinks	7 drinks and over	Weekly volume unknown	
		in thousands						
Age 15 and over:								
Total	**No.**	**17,492**	**5,303**	**11,418**	**5,937**	**4,399**	**1,082**	**771**
	%	**100.0**	**30.3**	**65.3**	**33.9**	**25.1**	**6.2**	**4.4**
Presently in school	**No.**	**1,192**	**548**	**542**	**366**	**135**	**41**	**102**
	%	**100.0**	**46.0**	**45.4**	**30.7**	**11.3**	**3.4**	**8.6**
Secondary or less	**No.**	**11,574**	**3,677**	**7,324**	**3,680**	**2,807**	**838**	**573**
	%	**100.0**	**31.8**	**63.3**	**31.8**	**24.3**	**7.2**	**4.9**
Some post-secondary	**No.**	**1,485**	**353**	**1,105**	**553**	**484**	**68**	**27**
	%	**100.0**	**23.8**	**74.4**	**37.2**	**32.6**	**4.6**	**1.8**
Post-secondary degree or diploma	**No.**	**3,150**	**702**	**2,383**	**1,303**	**948**	**122**	**65**
	%	**100.0**	**22.3**	**75.7**	**41.4**	**30.1**	**4.2**	**2.1**
Education unknown	**No.**	**90**	**23**	**64**	**35**	**25**	**..**	**4**
	%	**100.0**	**25.4**	**70.6**	**38.4**	**27.5**	**..**	**4.9**
15-19								
Total	No.	2,333	853	1,318	764	461	93	162
	%	100.0	36.6	56.5	32.7	19.8	4.0	6.9
Presently in school	No.	1,185	544	539	365	134	41	102
	%	100.0	45.9	45.5	30.8	11.3	3.5	8.6
Secondary or less	No.	878	230	595	294	257	44	52
	%	100.0	26.2	67.8	33.5	29.3	5.0	6.0
Some post-secondary	No.	238	69	163	93	62	..	6
	%	100.0	29.0	68.3	38.9	26.1	..	2.6
Post-secondary degree or diploma	No.	19	..	16	..	..	..	..
	%	100.0	..	81.7	..	..	..	..
Education unknown	No.	13	..	..	..	..	..	..
	%	100.0	..	..	..	..	..	..
20-24								
Total	No.	2,215	419	1,753	914	794	46	42
	%	100.0	18.9	79.2	41.3	35.8	2.1	1.9
Secondary or less	No.	1,340	283	1,021	503	483	35	36
	%	100.0	21.1	76.2	37.6	36.0	2.6	2.7
Some post-secondary	No.	373	66	306	157	144	..	..
	%	100.0	17.8	81.9	42.1	38.6	..	..
Post-secondary degree or diploma	No.	486	68	414	244	163	7	..
	%	100.0	13.9	85.1	50.2	33.5	1.4	..
Education unknown	No.	11	..	..	..	..	..	..
	%	100.0	..	..	..	..	..	..

TABLE 5. Population 15 Years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Age and Education, Canada, 1978-79 - Concluded

Education		Type of drinker						
		Total	Occasional and non-drinkers	Current drinkers and weekly volume of alcohol consumed				Type of drinker unknown
				Total	Less than 7 drinks	7 drinks and over	Weekly volume unknown	
		in thousands						
25-44:								
Total	No.	6,472	1,621	4,699	2,522	1,844	334	152
	%	100.0	25.0	72.6	39.0	28.5	5.2	2.4
Secondary or less	No.	4,059	1,108	2,826	1,503	1,081	242	125
	%	100.0	27.3	69.6	37.0	26.6	6.0	3.1
Some post-secondary	No.	544	114	425	215	182	28	..
	%	100.0	21.0	78.1	39.5	33.4	5.1	..
Post-secondary degree or diploma	No.	1,846	393	1,431	794	575	66	22
	%	100.0	21.3	77.5	43.0	31.1	3.4	1.2
Education unknown	No.	21	3	17	..	..	..	..
	%	100.0	15.6	84.4	..	..	..	..
45-64:								
Total	No.	4,453	1,394	2,838	1,380	1,049	408	221
	%	100.0	31.3	63.7	31.0	23.6	9.2	5.0
Secondary or less	No.	3,582	1,181	2,209	1,074	791	344	193
	%	100.0	33.0	61.7	30.0	22.1	9.6	5.4
Some post-secondary	No.	238	63	169	73	78	17	..
	%	100.0	26.3	70.9	30.7	32.8	7.3	..
Post-secondary degree or diploma	No.	594	142	432	219	168	44	20
	%	100.0	23.9	72.7	36.9	28.3	7.5	3.4
Education unknown	No.	38	..	28	13	..	..	..
	%	100.0	..	73.7	35.1	..	..	..
65 and over:								
Total	No.	2,019	1,018	810	357	251	202	193
	%	100.0	50.3	40.1	17.7	12.4	10.0	9.6
Secondary or less	No.	1,716	876	674	305	196	173	166
	%	100.0	51.0	39.3	17.8	11.4	10.1	9.7
Some post-secondary	No.	91	40	43	15	18	..	..
	%	100.0	44.1	47.2	16.4	19.6	..	..
Post secondary degree or diploma	No.	205	96	91	36	37	18	19
	%	100.0	46.6	44.3	17.6	17.8	8.7	9.1
Education unknown	No.	..	..	..	..	..	..	..
	%	..	..	..	..	..	..	..

TABLE 6. Population 15 Years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Sex and Economic Family Income Quintiles, Canada, 1978-79

Economic family income quintiles		Type of drinker						
		Total	Occasional and non-drinkers	Current drinkers and weekly volume of alcohol consumed				Type of drinker unknown
				Total	Less than 7 drinks	7 drinks and over	Weekly volume unknown	
		in thousands						
Both sexes:								
Total	**No.**	**17,492**	**5,303**	**11,418**	**5,937**	**4,399**	**1,082**	**771**
	%	**100.0**	**30.3**	**65.3**	**33.9**	**25.1**	**6.2**	**4.4**
First quintile	**No.**	**3,067**	**1,288**	**1,574**	**860**	**507**	**207**	**206**
	%	**100.0**	**42.0**	**51.3**	**28.0**	**16.5**	**6.7**	**6.7**
Second quintile	**No.**	**2,928**	**1,001**	**1,760**	**917**	**662**	**182**	**167**
	%	**100.0**	**34.2**	**60.1**	**31.3**	**22.6**	**6.2**	**5.7**
Third quintile	**No.**	**3,037**	**965**	**1,909**	**991**	**694**	**224**	**163**
	%	**100.0**	**31.8**	**62.9**	**32.6**	**22.8**	**7.4**	**5.4**
Fourth quintile	**No.**	**3,467**	**981**	**2,369**	**1,270**	**902**	**198**	**116**
	%	**100.0**	**28.3**	**68.4**	**36.6**	**26.0**	**5.7**	**3.4**
Fifth quintile	**No.**	**4,040**	**788**	**3,173**	**1,576**	**1,396**	**201**	**79**
	%	**100.0**	**19.5**	**78.5**	**39.0**	**34.6**	**5.0**	**2.0**
Income unknown	**No.**	**952**	**280**	**633**	**324**	**238**	**71**	**39**
	%	**100.0**	**29.4**	**66.4**	**34.0**	**25.0**	**7.5**	**4.1**
Male:								
Total	No.	8,584	1,802	6,453	2,716	3,134	603	329
	%	100.0	21.0	75.2	31.6	36.5	7.0	3.8
First quintile	No.	1,335	413	856	393	353	109	66
	%	100.0	31.0	64.1	29.5	26.4	8.2	5.0
Second quintile	No.	1,376	332	975	392	476	107	69
	%	100.0	24.1	70.9	28.5	34.6	7.8	5.0
Third quintile	No.	1,511	348	1,085	471	502	113	78
	%	100.0	23.0	71.8	31.1	33.2	7.5	5.2
Fourth quintile	No.	1,704	312	1,343	590	646	107	49
	%	100.0	18.3	78.8	34.6	37.9	6.3	2.9
Fifth quintile	No.	2,169	292	1,831	723	985	123	47
	%	100.0	13.4	84.4	33.3	45.4	5.7	2.2
Income unknown	No.	489	105	363	148	171	44	20
	%	100.0	21.5	74.3	30.3	35.1	9.0	4.2
Female:								
Total	No.	8,907	3,501	4,965	3,220	1,265	480	442
	%	100.0	39.3	55.7	36.2	14.2	5.4	5.0
First quintile	No.	1,732	874	718	466	154	97	140
	%	100.0	50.5	41.5	26.9	8.9	5.6	8.1
Second quintile	No.	1,553	669	785	525	186	75	99
	%	100.0	43.1	50.5	33.8	12.0	4.8	6.4
Third quintile	No.	1,526	617	824	520	192	112	85
	%	100.0	40.4	54.0	34.1	12.6	7.3	5.5
Fourth quintile	No.	1,763	869	1,027	680	256	91	68
	%	100.0	37.9	58.2	38.6	14.5	5.2	3.8
Fifth quintile	No.	1,871	497	1,342	853	411	78	32
	%	100.0	26.6	71.7	45.6	22.0	4.2	1.7
Income unknown	No.	463	175	269	176	66	27	19
	%	100.0	37.8	58.1	37.9	14.3	5.9	4.1

TABLE 7. Population 15 Years and Over by Type of Drinker and Weekly Volume of Alcohol Consumed, by Sex and Occupation, Canada, 1978-79

Present occupation		Type of drinker						
		Total	Occasional and non-drinkers	Current drinkers and weekly volume of alcohol consumed				Type of drinker unknown
				Total	Less than 7 drinks	7 drinks and over	Weekly volume unknown	
		in thousands						
Both sexes:								
Total	**No.**	**17,492**	**5,303**	**11,418**	**5,937**	**4,399**	**1,082**	**771**
	%	**100.0**	**30.3**	**65.3**	**33.9**	**25.1**	**6.2**	**4.4**
Employed:								
Total employed	No.	9,838	2,108	7,446	3,619	3,249	578	284
	%	100.0	21.4	75.7	36.8	33.0	5.9	2.9
Managerial and professional	No.	2,323	433	1,867	964	795	108	23
	%	100.0	18.6	80.4	41.5	34.2	4.6	1.0
Other white collar	No.	3,968	935	2,925	1,577	1,135	213	108
	%	100.0	23.6	73.7	39.7	28.6	5.4	2.7
Blue collar	No.	3,242	681	2,429	982	1,216	230	132
	%	100.0	21.0	74.9	30.3	37.5	7.1	4.1
Occupation unknown	No.	304	58	225	96	103	27	21
	%	100.0	19.0	74.1	31.4	33.8	8.9	6.9
Unemployed	No.	1,169	384	730	419	254	57	55
	%	100.0	32.8	62.5	35.9	21.7	4.9	4.7
Not in labour force	No.	6,316	2,741	3,157	1,849	868	440	418
	%	100.0	43.4	50.0	29.3	13.7	7.0	6.6
Labour force status unknown	No.	168	71	84	49	26	8	13
	%	100.0	42.0	50.1	29.1	16.4	4.5	7.9
Male:								
Total	**No.**	**8,584**	**1,802**	**6,453**	**2,716**	**3,134**	**603**	**329**
	%	**100.0**	**21.0**	**75.2**	**31.6**	**36.5**	**7.0**	**3.8**
Employed:								
Total employed	No.	6,197	1,037	4,987	2,006	2,563	419	173
	%	100.0	16.7	80.5	32.4	41.3	6.8	2.8
Managerial and professional	No.	1,392	186	1,195	520	593	82	..
	%	100.0	13.3	85.9	37.3	42.6	5.9	..
Other white collar	No.	1,756	296	1,412	571	716	125	48
	%	100.0	16.8	80.4	32.5	40.8	7.1	2.7
Blue collar	No.	2,858	527	2,233	870	1,170	193	99
	%	100.0	18.4	78.1	30.4	40.9	6.7	3.5
Occupation unknown	No.	192	28	148	46	83	19	15
	%	100.0	14.7	77.3	23.8	43.6	9.9	8.0
Unemployed	No.	522	123	371	179	168	25	28
	%	100.0	23.6	71.1	34.2	32.1	4.8	5.3
Not in labour force	No.	1,784	608	1,050	507	388	155	125
	%	100.0	34.1	58.9	28.4	21.7	8.7	7.0
Labour force status unknown	No.	80	33	44	25	15	..	..
	%	100.0	41.6	55.1	31.0	19.3	..	..
Female:								
Total	**No.**	**8,907**	**3,501**	**4,965**	**3,220**	**1,265**	**480**	**442**
	%	**100.0**	**39.3**	**55.7**	**36.2**	**14.2**	**5.4**	**5.0**
Employed:								
Total employed	No.	3,641	1,071	2,459	1,613	686	159	111
	%	100.0	29.4	67.5	44.3	18.9	4.4	3.0
Managerial and professional	No.	931	247	672	445	201	26	..
	%	100.0	26.6	72.1	47.8	21.6	2.7	..
Other white collar	No.	2,213	640	1,514	1,006	420	88	60
	%	100.0	28.9	68.4	45.5	19.0	4.0	2.7
Blue collar	No.	384	154	196	113	46	..	33
	%	100.0	40.1	51.2	29.4	12.0	..	8.7
Occupation unknown	No.	113	30	77	50	19	..	..
	%	100.0	26.3	68.6	44.4	17.1	..	..
Unemployed	No.	647	261	359	241	86	32	27
	%	100.0	40.3	55.5	37.2	13.4	4.9	4.2
Not in labour force	No.	4,532	2,132	2,107	1,342	480	285	293
	%	100.0	47.1	46.5	29.6	10.6	6.3	6.5
Labour force status unknown	No.	88	37	40	24	12	..	11
	%	100.0	42.3	45.6	27.5	13.9	..	12.1

TABLE 8. Population 15 Years and Over by Type of Drinker, by Age and Classes of Drugs Taken in the Last Two Days, Canada, 1978-79

Class of drugs taken in the last two days		Type of drinker			
		Total	Current drinker	Occasional and non-drinkers	Unknown
		in thousands			
Age 15 and over:					
Total population(1)	**No.**	**17,492**	**11,418**	**5,303**	**771**
	%	**100.0**	**65.3**	**30.3**	**4.4**
Pain relievers	**No.**	**2,790**	**1,768**	**895**	**126**
	%	**100.0**	**63.4**	**32.1**	**4.5**
Tranquilizers and sleeping pills	**No.**	**1,035**	**536**	**438**	**61**
	%	**100.0**	**51.8**	**42.3**	**5.9**
Heart and blood pressure remedies	**No.**	**1,580**	**745**	**690**	**145**
	%	**100.0**	**47.1**	**43.7**	**9.2**
Cough and cold remedies	**No.**	**857**	**554**	**263**	**40**
	%	**100.0**	**64.6**	**30.6**	**4.7**
Other drugs	**No.**	**6,328**	**3,998**	**2,049**	**281**
	%	**100.0**	**63.2**	**32.4**	**4.4**
No drugs taken	**No.**	**8,748**	**5,955**	**2,434**	**359**
	%	**100.0**	**68.1**	**27.8**	**4.1**
15-19:					
Total population(1)	No.	2,333	1,318	853	162
	%	100.0	56.5	36.6	6.9
Pain relievers	No.	212	120	73	19
	%	100.0	56.5	34.7	8.9
Tranquilizers and sleeping pills	No.	26	..	..	..
	%	100.0	..	..	..
Heart and blood pressure remedies	No.	..	.	..	.
	%	..	.	..	.
Cough and cold remedies	No.	111	63	34	..
	%	100.0	56.9	30.4	..
Other drugs	No.	657	384	225	47
	%	100.0	58.5	34.3	7.2
No drugs taken	No.	1,506	835	561	110
	%	100.0	55.5	37.3	7.3
20-24:					
Total population(1)	No.	2,215	1,753	419	42
	%	100.0	79.2	18.9	1.9
Pain relievers	No.	260	215	44	..
	%	100.0	82.8	16.7	..
Tranquilizers and sleeping pills	No.	33	23	..	.
	%	100.0	68.3	..	.
Heart and blood pressure remedies	No.	..	..	..	..
	%	..	..	..	..
Cough and cold remedies	No.	106	89	16	..
	%	100.0	83.9	15.3	..
Other drugs	No.	726	573	146	..
	%	100.0	78.9	20.1	..
No drugs taken	No.	1,310	1,043	234	32
	%	100.0	79.6	17.9	2.5

See footnote(s) at end of table.

TABLE 8. Population 15 Years and Over by Type of Drinker, by Age and Classes of Drugs Taken in the Last Two Days, Canada, 1978-79 – Concluded

Class of drugs taken in the last two days		Type of drinker			
		Total	Current drinker	Occasional and non-drinkers	Unknown
		in thousands			
25-44:					
Total population(1)	No.	6,472	4,699	1,621	152
	%	100.0	72.6	25.0	2.4
Pain relievers	No.	1,046	780	237	30
	%	100.0	74.5	22.6	2.9
Tranquilizers and sleeping pills	No.	247	157	82	--
	%	100.0	63.7	33.1	--
Heart and blood pressure remedies	No.	102	80	20	--
	%	100.0	78.3	19.9	--
Cough and cold remedies	No.	347	257	81	--
	%	100.0	74.0	23.4	--
Other drugs	No.	2,131	1,516	580	36
	%	100.0	71.1	27.2	1.7
No drugs taken	No.	3,557	2,594	867	97
	%	100.0	72.9	24.4	2.7
45-64:					
Total population(1)	No.	4,453	2,838	1,394	221
	%	100.0	63.7	31.3	5.0
Pain relievers	No.	834	494	299	42
	%	100.0	59.2	35.8	5.0
Tranquilizers and sleeping pills	No.	447	243	175	29
	%	100.0	54.4	39.2	6.5
Heart and blood pressure remedies	No.	739	414	262	63
	%	100.0	56.0	35.4	8.6
Cough and cold remedies	No.	208	109	91	--
	%	100.0	52.3	43.7	--
Other drugs	No.	1,814	1,131	599	85
	%	100.0	62.3	33.0	4.7
No drugs taken	No.	1,821	1,235	512	74
	%	100.0	67.8	28.1	4.1
65 and over:					
Total population(1)	No.	2,019	810	1,016	193
	%	100.0	40.1	50.3	9.6
Pain relievers	No.	437	159	243	35
	%	100.0	36.4	55.6	7.9
Tranquilizers and sleeping pills	No.	282	103	156	23
	%	100.0	36.6	55.3	8.1
Heart and blood pressure remedies	No.	732	248	405	79
	%	100.0	33.9	55.3	10.8
Cough and cold remedies	No.	85	36	41	--
	%	100.0	42.3	48.1	--
Other drugs	No.	1,000	394	500	106
	%	100.0	39.4	50.0	10.6
No drugs taken	No.	554	248	260	46
	%	100.0	44.8	46.9	8.2

(1) Because multiple responses were possible, columns do not add to totals.

TABLE 9. Population 15 Years and Over by Type of Drinker, by Age and Selected Health Behaviours, Canada, 1978-79

Selected behaviours		Type of drinker			
		Total	Current drinker	Occasional and non-drinkers	Unknown
		in thousands			
Age 15 and over:					
Total population(1)	**No.**	**17,492**	**11,418**	**5,303**	**771**
	%	**100.0**	**65.3**	**30.3**	**4.4**
Disability days	**No.**	**2,094**	**1,270**	**727**	**97**
	%	**100.0**	**60.7**	**34.7**	**4.6**
Recent consultations with health professionals	**No.**	**3,997**	**2,464**	**1,352**	**181**
	%	**100.0**	**61.7**	**33.8**	**4.5**
Drug use in the last two days	**No.**	**8,743**	**5,463**	**2,868**	**412**
	%	**100.0**	**62.5**	**32.8**	**4.7**
Activity limitation	**No.**	**2,447**	**1,292**	**1,006**	**150**
	%	**100.0**	**52.6**	**41.1**	**6.1**
None of the above	**No.**	**6,824**	**4,670**	**1,853**	**301**
	%	**100.0**	**68.4**	**27.2**	**4.4**
15-19					
Total population(1)	No.	2,333	1,318	853	162
	%	100.0	56.5	36.6	6.9
Disability days	No.	224	120	86	17
	%	100.0	53.7	38.5	7.8
Recent consultations with health professionals	No.	432	239	167	26
	%	100.0	55.3	38.7	6.0
Drug use in the last two days	No.	827	483	292	52
	%	100.0	58.4	35.3	6.3
Activity limitation	No.	106	62	37	..
	%	100.0	58.6	35.0	..
None of the above	No.	1,215	666	449	99
	%	100.0	54.9	37.0	8.2
20-24					
Total population(1)	No.	2,215	1,753	419	42
	%	100.0	79.2	18.9	1.9
Disability days	No.	256	214	38	..
	%	100.0	83.6	14.9	..
Recent consultations with health professionals	No.	513	394	111	..
	%	100.0	76.8	21.6	..
Drug use in the last two days	No.	905	710	185	..
	%	100.0	78.5	20.4	..
Activity limitation	No.	108	73	31	..
	%	100.0	67.6	28.7	..
None of the above	No.	1,019	808	185	25
	%	100.0	79.4	18.2	2.4

See footnote(s) at end of table

TABLE 9. Population 15 Years and Over by Type of Drinker, by Age and Selected Health Behaviours, Canada, 1978-79 - Concluded

Selected behaviours		Type of drinker			
		Total	Current drinker	Occasional and non-drinkers	Unknown
		in thousands			
25-44:					
Total population(1)	No.	6,472	4,699	1,621	152
	%	100.0	72.6	25.0	2.4
Disability days	No.	749	516	211	21
	%	100.0	68.9	28.2	2.9
Recent consultations with health professionals	No.	1,426	991	392	43
	%	100.0	69.5	27.5	3.0
Drug use in the last two days	No.	2,915	2,106	754	55
	%	100.0	72.2	25.9	1.9
Activity limitation	No.	575	392	164	19
	%	100.0	68.2	28.5	3.3
None of the above	No.	2,801	2,055	669	77
	%	100.0	73.4	23.9	2.7
45-64:					
Total population(1)	No.	4,453	2,838	1,394	221
	%	100.0	63.7	31.3	5.0
Disability days	No.	583	328	224	30
	%	100.0	56.3	38.5	5.1
Recent consultations with health professionals	No.	1,071	663	363	46
	%	100.0	61.9	33.9	4.3
Drug use in the last two days	No.	2,631	1,603	881	147
	%	100.0	60.9	33.5	5.6
Activity limitation	No.	932	508	365	58
	%	100.0	54.6	39.1	6.3
None of the above	No.	1,393	951	377	65
	%	100.0	68.2	27.1	4.7
65 and over:					
Total population(1)	No.	2,019	810	1,016	193
	%	100.0	40.1	50.3	9.6
Disability days	No.	283	92	167	24
	%	100.0	32.4	59.0	8.6
Recent consultations with health professionals	No.	555	178	319	58
	%	100.0	32.1	57.4	10.5
Drug use in the last two days	No.	1,465	561	756	148
	%	100.0	38.3	51.6	10.1
Activity limitation	No.	726	256	409	62
	%	100.0	35.2	56.3	8.5
None of the above	No.	396	190	172	35
	%	100.0	47.9	43.4	8.8

(1) Because multiple responses were possible, columns do not add to totals

TABLE 10. Population 15 Years and Over by Type of Drinker, by Age and "Affect Balance Scale" Scores, Canada, 1978-79

Affect Balance Scale scores		Type of drinker			
		Total	Current drinker	Occasional and non-drinkers	Unknown
		in thousands			
Age 15 and over:					
Total	**No.**	**17,492**	**11,418**	**5,303**	**771**
	%	**100.0**	**65.3**	**30.3**	**4.4**
Positive	**No.**	**7,956**	**5,383**	**2,299**	**273**
	%	**100.0**	**67.7**	**28.9**	**3.4**
Mixed	**No.**	**7,081**	**4,719**	**2,137**	**225**
	%	**100.0**	**66.6**	**30.2**	**3.2**
Negative	**No.**	**770**	**458**	**280**	**32**
	%	**100.0**	**59.5**	**36.4**	**4.1**
Unknown	**No.**	**1,686**	**858**	**587**	**241**
	%	**100.0**	**50.9**	**34.8**	**14.3**
15-19:					
Total	No.	2,333	1,318	853	162
	%	100.0	56.5	36.6	6.9
Positive	No.	951	518	370	64
	%	100.0	54.4	38.9	6.7
Mixed	No.	1,156	670	412	73
	%	100.0	58.0	35.7	6.3
Negative	No.	123	80	34	..
	%	100.0	65.3	27.7	..
Unknown	No.	103	50	37	17
	%	100.0	48.1	35.7	16.1
20-24:					
Total	No.	2,215	1,753	419	42
	%	100.0	79.2	18.9	1.9
Positive	No.	1,028	836	179	..
	%	100.0	81.4	17.4	..
Mixed	No.	1,006	804	188	..
	%	100.0	79.9	18.7	..
Negative	No.	92	57	34	..
	%	100.0	62.5	36.6	..
Unknown	No.	90	56	18	..
	%	100.0	62.6	20.5	..
25-44:					
Total	No.	6,472	4,699	1,621	152
	%	100.0	72.6	25.0	2.4
Positive	No.	3,087	2,318	724	46
	%	100.0	75.1	23.4	1.5
Mixed	No.	2,753	1,997	703	52
	%	100.0	72.5	25.6	1.9
Negative	No.	267	184	73	..
	%	100.0	68.9	27.5	..
Unknown	No.	365	201	120	44
	%	100.0	55.0	32.9	12.1
45-64:					
Total	No.	4,453	2,838	1,394	221
	%	100.0	63.7	31.3	5.0
Positive	No.	2,076	1,371	620	85
	%	100.0	66.0	29.9	4.1
Mixed	No.	1,562	1,012	507	43
	%	100.0	64.8	32.5	2.8
Negative	No.	180	102	71	7
	%	100.0	56.5	39.5	4.1
Unknown	No.	634	353	196	86
	%	100.0	55.6	30.9	13.5
65 and over:					
Total	No.	2,019	810	1,016	193
	%	100.0	40.1	50.3	9.8
Positive	No.	813	340	407	66
	%	100.0	41.8	50.0	8.2
Mixed	No.	604	236	326	42
	%	100.0	39.1	53.9	7.0
Negative	No.	108	35	68	..
	%	100.0	32.4	62.8	..
Unknown	No.	493	198	215	79
	%	100.0	40.2	43.7	16.1

Chapter II

Tobacco Use

TOBACCO USE

Highlights

- About 40% of adult Canadians smoke cigarettes daily, and one third of daily cigarette smokers smoke 23 or more cigarettes per day.
- Nearly one quarter of adult Canadians are former smokers.
- Smoking is most prevalent among those with low education, among the unemployed and those in blue collar jobs. Half of the unemployed are daily cigarette smokers while less than a third of those in managerial and professional occupations smoke cigarettes daily. Income is not strongly related to daily cigarette smoking.
- Current drinkers are the most likely to be current daily smokers; heavy drinkers are the most likely to be heavy smokers. Heavy smokers are the least likely to have recently tried to cut down on their smoking.

Methods

Data on tobacco use were collected from persons 15 years of age and over on the self-administered questionnaire. The questions asked are shown on pages 216 and 217 of Appendix I, and are similar to those posed in other tobacco use surveys, including the Smoking Habits of Canadians Survey.[1] The main difference between this latter survey and the tobacco section of the Canada Health Survey is one of interviewer administration versus self-administration. The self-administered portion of the Canada Health Survey did collect information directly from each respondent, but provided no control over the household setting when questionnaires were completed, and the presence of other family members may have influenced responses. On balance, however, a self-administered questionnaire is probably superior to collecting tobacco data by interview, in that inaccuracies introduced by proxy reporting are minimized.

Non-respondents to the self-administered questionnaire, 14% of the total adult sample, have been distributed across the population estimates using procedures described in the Overview under "Data Limitations". A further 2% did not respond at all to the tobacco section of the questionnaire, and small proportions — ranging from 1% to 6% — missed particular questions within the tobacco section. In the tables in this section, those who missed the entire section and those who missed particular questions are combined into the single category of "unknown".

Results

Smokers and Non-smokers

A basic classification of the adult population used in this report is "type of cigarette smoker". Text Table II shows the population distributed according to this classification.

TEXT TABLE II. Type of Cigarette Smoker

	Per cent distribution
Total	**100**
Never smoked	31
Former smoker (used to smoke, but now does not smoke at all)	23
Current occasional smoker (currently smokes, but not every day)	3
Current daily smokers	37
Unknown	6

Another classification that is used extensively is the number of cigarettes smoked daily, which uses the categories of 1-12, 13-22, 23-32 and 33 or more cigarettes per day.[2]

When the type of cigarette smoker and the number of cigarettes smoked per day are examined according to age and sex, some interesting patterns emerge. Table 11 shows that 37% of the adult population smokes cigarettes daily, with the highest proportion, 47%, in the age group 20-24. Equal proportions, 40% each, of men and women aged 15-24 are current daily smokers. At older ages, many more men than women are daily smokers.

Men are much more likely than women to be heavy smokers. The proportion of men smoking 23 or more cigarettes per day exceeds the corresponding proportion of women for every age group except 15-19. Heavy smoking is most prevalent for persons aged 20-44.

Table 11 also shows that only 3% of adults are current occasional smokers. This proportion shrinks to 2% for people 45 and over. Slightly more men than women are occasional smokers. Former smokers make up 23% of the adult population, but 36% of men 45 and over are former smokers.

Those who never smoked cigarettes account for 31% of the adult population. A slightly higher proportion of men (43%) than women (38%) aged 15-19 never smoked. For older age groups, however, the proportion of men who never smoked goes down, while the proportion of women goes up. Only 17% of men 65 and over have never smoked, while 59% of women of the same age have never smoked.

Differences in patterns of smoking from region to region are evident from Canada Health Survey data. Table 12 shows that Quebec has the highest proportion of current daily smokers (48% for men and 38% for women) of any Canadian region. Furthermore, among regular smokers, Quebec has the highest proportion of adults smoking 23 or more cigarettes per day (20%). Ontario has the lowest proportion of current daily smokers (37% for men and 30% for women).

However, caution must be exercised in interpreting these results. Quebec has a lower proportion (5%) of "unknown" type of smoker than any other region, while Ontario at 7% has one of the highest. In addition, the proportions of those who did

not respond at all to the self-administered questionnaire, not shown in Table 12, were 10% for Quebec and 17% for Ontario. If non-respondents are mainly cigarette smokers, then the nature of regional differences in cigarette smoking status becomes more obscure.

Another important difference in smoking behaviour is found when respondents are classified according to major activity — working, doing housework, going to school, retired or other. Table 13 shows that the highest proportions of current daily smokers, both men and women, occur in the major activity category of "other"; almost all of the people in this category are unemployed. There is also a larger proportion of current daily smokers for the working population than the population as a whole. The proportions of heavy smokers, 23 cigarettes per day or more, are also considerably above population averages for working and unemployed men and women.

Smoking and Social Status

Smoking, like many other behaviours, is not distributed evenly across social classes. In this section, differences in patterns of smoking according to three measures of social class — education, income and occupation — are examined.

The proportion of current daily smokers varies significantly with education. Table 14 shows that 27% of those with a post-secondary degree or diploma are daily smokers while a significantly larger proportion (42%) of those with secondary education or less are daily smokers. The proportion of daily smokers with only some post-secondary education (33%) is also significantly greater than the proportion of daily smokers with a post-secondary degree or diploma. This pattern persists for all ages groups except those 65 and over where the differences in proportions of daily smokers according to level of education are not statistically significant.

It is also worth noting that 23% of teenagers 15-19 years of age who are attending school are daily smokers while 48% of teenagers of the same age with secondary education or less who are no longer attending school are daily smokers. Smoking is therefore significantly more prevalent among teenagers out of school than teenagers in school.

Income, in contrast to education, is not significantly related to the proportion of current daily cigarette smokers in the population. Daily cigarette smokers are classified according to family income quintiles in Table 15, where the first quintile is the lowest. While the proportion of daily cigarette smokers does decrease with rising income, the differences in proportions of daily smokers between income quintiles are not statistically significant. When age is controlled, the lowest proportion of daily smokers is always found in the highest income quintile. However, while consistently lower, this proportion is not significantly lower except in the cases of the age groups 15-19 and 25-44 where there are significantly fewer daily smokers in the fifth income quintile than in either the first or second income quintiles. In general, however, while there does appear to be some relationship of smoking to income, the relationship is not one of clear statistical significance.

Occupation and employment status, however, are significantly related to daily cigarette smoking. Table 16 shows that current daily smokers are a significantly larger proportion of unemployed than employed persons. Those in the labour force, either employed or unemployed, are significantly more likely to be smokers than are persons not in the labour force. These relationships are true for both men and women. Among the unemployed, 50% are daily cigarette smokers, while 41% of those with a job and only 29% of those not in the labour force smoke cigarettes daily.

Among employed persons, 47% of those in blue collar occupations are daily smokers, significantly greater than the proportion of daily smokers for those in managerial and professional occupations (32%), or those in other white collar occupations (42%). Daily cigarette smoking is clearly most prevalent among unemployed persons and those in blue collar occupations.

Exposure to Risks from Smoking

The risk of death or illness is known to vary according to smoking behaviour and the amount smoked. It is known that current daily cigarette smokers are at much greater risk of death or illness than either former or occasional smokers. Furthermore, risk increases with the number of cigarettes smoked per day. Some additional factors affecting risk are pipe and cigar smoking, tar and nicotine content of cigarettes smoked, daily tar exposure, number of years of smoking, and the age at which smoking began. These factors are examined briefly in this section.

Pipe and cigar smokers are at less risk than current daily cigarette smokers for heart diseases and certain cancers, such as those of the trachea, bronchus and lung. However, pipe and cigar smokers run increased risks of lip and throat cancer.[3] Table 17 shows that 1.2 million or 7% of adult Canadians smoke pipes, cigars or cigarillos.[4] However, the majority of these (73%) are also current daily cigarette smokers. Thus, most pipe and cigar smokers, by virtue of also being regular cigarette smokers, have increased risks of disease and death.

A series of questions was asked in the survey to elicit changes in smoking behaviour in the past year. Respondents were asked if they had begun smoking more or fewer cigarettes in the last year, whether they had switched to a milder or stronger brand, and whether they had tried to stop smoking in the last year (see Appendix I, page 216). This information was summarized into a single index called "Reduction Attempts", defined using the following information:

Positive behaviour:
(1) Smoking less now.
(2) Switched to a milder brand.
(3) Tried stopping.

Negative behaviour:
(4) Smoking more now.
(5) Switched to a stronger brand.
(6) Did not try stopping.

These six possible behaviours were then summarized in the index shown in Text Table III, together with their percentage distribution.

TEXT TABLE III. Reduction Attempts

	Per cent distribution
Total	**100**
Clear attempt to reduce (at least one positive behaviour and no negative behaviours)	32
Mixed attempt to reduce (at least one positive and at least one negative behaviour)	24
No attempt to reduce (no positive behaviours and at least one negative behaviour)	41
Not stated (no response to any parts of questions 6 or 7)	3

Reduction attempts were then examined according to age, sex and the number of cigarettes smoked per day, as shown in Table 18. A significantly larger proportion of smokers (41%) made no attempt to reduce their smoking when compared to those who clearly attempted to do so (32%). As might be expected, those who had made a clear attempt to reduce tobacco consumption were disproportionately represented among those smoking 12 or fewer cigarettes per day. Of course, to the extent that reduction attempts have succeeded, these two variables are confounded. Of some concern from a public health point of view is the fact that smokers who have made no attempt to reduce their tobacco consumption are significantly more likely to be heavy smokers, smoking 23 or more cigarettes per day.

Two other important elements of exposure to risk from smoking are potential daily tar exposure and duration of smoking. Both are displayed in Table 19 for men and women. Potential daily tar exposure is obtained by multiplying the number of milligrams of tar per cigarette for the preferred cigarette brand of each current daily smoker by the number of cigarettes smoked per day by that person. The actual amount of tar consumed may be less than this product, depending on particular smoking practices, such as depth of inhalation and butt length. Potential daily tar exposure, however, is a good relative index of tar consumption. The only absolutely safe level of potential daily tar exposure is zero; however, risks to health are thought to increase with increasing potential daily tar exposure.

The tar content of cigarettes available in Canada ranges from less than 1 to 20 milligrams per cigarette. One could smoke, for example, over 100 Viscount Ultra Mild King Size cigarettes per day (0.7 mg./cigarette) and still be in the lowest potential daily tar exposure category (1-99 mg./day), shown in Table 19. In contrast, smokers of high-tar cigarettes, such as Players Regular Plain or Export "A" King Size Filter Tip (18 mg./cigarette) need smoke only 23 cigarettes per day to have a potential daily tar exposure of 400 or more milligrams per day. Smokers of these high-tar cigarette brands would have to limit their consumption to six or fewer cigarettes per day to keep their potential daily tar exposure below 100 milligrams per day.

Table 19 shows that 48% of men smokers and only 32% of women smokers are potentially exposed to 300 or more milligrams of tar per day. This table also shows that men who have been smoking for 10 years or more are significantly more likely to have very high potential daily tar exposure of 400 or more milligrams per day than those who have been smoking for a shorter period of time. In all, nearly three quarters of a million Canadian men have been smoking 10 or more years and are potentially exposed to 400 or more milligrams of tar every day.

The age at which smoking began also affects exposure to risk from smoking. The earlier in life that one begins to smoke, the longer that one is exposed to the risk of a serious smoking-related illness. Table 20 shows that 60% of current daily smokers began smoking before the age of 18. Nearly equal proportions, about 55% each, of men and women now under 25 began smoking at a very young age, 15 or less. For persons 25 and over, however, a much larger proportion of men (31%) than women (15%) began smoking before age 16. Among women smokers 65 and over, 64% did not begin smoking until they were past 21 years of age.

The most effective way to avoid the risks of cigarette smoking is, of course, never to smoke at all. The next best way is to stop smoking. Table 21 shows 2.5 million Canadians have indeed stopped smoking and are now former smokers. Men outnumber women two to one in the population of former smokers. A greater proportion of female ex-smokers (44%) than male ex-smokers (25%) stopped smoking after nine or fewer years of smoking, while 41% of men and only 27% of women smoked for 20 or more years before stopping.

Smoking and Drinking

It has been estimated that daily cigarette smoking accounts for about 12% of premature deaths in Canada, while hazardous drinking accounts for 6% of such deaths.[5] California researchers[6] have noted that poor health habits, including smoking and excessive drinking, are related to death and illness in additive, and possibly multiplicative, fashion. That is, the more poor health habits one has, the greater are the risks of death and illness. From an epidemiological point of view, then, the relationship between smoking and drinking shown in Table 22 is of considerable interest.

The principal feature of this table is that there are highly significant relationships between smoking and drinking. Current drinkers are significantly more likely to be daily smokers than occasional or non-drinkers. Furthermore, the more one drinks, the more likely one is to smoke, and to smoke heavily. Those consuming 14 or more drinks per week are significantly more likely to smoke 23 or more cigarettes per day than those who drink more moderately. In all, 29% of adult Canadians, five million people, are both current daily smokers and current drinkers. Of these, 12% (602,000 people), consume 14 or more alcoholic drinks per week and smoke 23 or more cigarettes per day. While larger proportions of men than women are current drinkers and daily smokers, supplementary analysis revealed that the significant relationships between smoking and drinking were true for both sexes.

Smoking and Physical Health Status

Smoking is known to be related to many forms of cancer, serious circulatory disorders, chronic bronchitis, emphysema and peptic ulcers.[7] In general, these illnesses do not appear until one has been smoking for a very long time, 20 years or more. When a smoking-related illness does occur it tends to be very serious, often leading to hospitalization and possibly death. The Canada Health Survey, being a cross-sectional household survey, is not well adapted to finding these smoking-related health problems.

However, there is some suspicion that smoking may have some more immediate relationship to selected behaviours relating to ill health. Some of these possible relationships can be examined using the cross-sectional data from the Canada Health Survey.

Table 23 shows the type of cigarette smoker according to selected behaviours related to ill health. When controlled for age, none of these behaviours — presence of disability days in the past two weeks, consultations with health professionals in the past two weeks, drug use in the past two days or activity limitation in the past year — shows any systematic relationship to cigarette smoking. Similarly, when controlled for sex (data not shown), no systematic relationships of cigarette smoking to selected behaviours related to ill health were evident.

One particular hypothesis that has gained some currency is that cigarette smokers are away from work more days each year than are non-smokers. Some indication of this can be obtained by examining Table 24 which shows the type of cigarette smoker and the number of cigarettes smoked daily according to age and the presence or absence of disability days in the past two weeks. Heavy smokers (23 or more cigarettes per day) aged 45-64 form a significantly larger proportion of those with some disability days (19%) than those with no disability days (13%). Further analysis, comparing those who never smoked to those who smoke 23 or more cigarettes per day, showed that the former group were significantly less likely to have had disability days in the last two weeks than the later group. This relationship was significant for those aged 20-24 and 45-64.

Discussion

The patterns of smoking by age and sex demonstrated by the Canada Health Survey are similar to those found in other smoking surveys. However, there is one striking difference between Canada Health Survey results and results obtained by the Smoking Habits of Canadians Survey, which was appended to the Statistics Canada Labour Force Survey in December 1977 and again in December 1979.[8] The 1977 and 1979 surveys reported 36% and 34% of the adult population, respectively, as current daily smokers. When Canada Health Survey

TEXT TABLE IV. Proportion of Population 15 and Over Reporting Daily Cigarette Smoking, by Age and Sex, in the Smoking Habits of Canadians Survey, December 1977 and December 1979, and Canada Health Survey, 1978-79

	Percentage of population who are daily smokers		
	Smoking Habits of Canadians		Canada Health Survey
	December 1977	December 1979	1978-79
Men:			
All ages	**40.8**	**38.6**	**43.8**
15-19	26.9	26.8	34.7
20-24	45.2	42.3	50.8
25-44	47.0	44.0	46.7
45-64	42.3	40.5	45.0
65 +	27.5	24.6	33.0
Women:			
All ages	**31.1**	**30.1**	**35.8**
15-19	26.7	26.0	35.6
20-24	40.7	39.8	46.5
25-44	36.6	36.0	38.9
45-64	30.5	28.9	34.8
65 +	12.0	10.6	16.2

data are adjusted for unknowns to make them comparable with information from these other surveys, 40% of Canada Health Survey respondents are reported as current daily smokers. Comparative distributions of daily cigarette smokers by age and sex from the three surveys are shown in Text Table IV. Since the Canada Health Survey occurred between the two Smoking Habits Surveys, it is not reasonable to attribute the observed differences to real changes in smoking habits.

Methodological differences must account for this discrepancy. The same definition of daily smoker was derived from questions that were similarly worded. However, the key difference is that the Canada Health Survey used a self-administered questionnaire, while the Smoking Habits Survey was interviewer-administered, with a substantial proportion of results reported by proxy. It is reasonable to assume that questions on smoking would be more carefully and more truthfully answered on a self-administered questionnaire. This assumption is supported by the fact that the largest observed difference in the proportion of regular smokers is for 15-19 year olds. It is probable that parents, the most likely interviewees for the Smoking Habits Survey, would not know or would not wish to report the smoking habits of their teenage children.

A previous study[9] examined results of Smoking Habits of Canadians Surveys from 1965-1975 and found cigarette consumption to be underreported by 14% to 20% when compared to tobacco sales data. Difficulties of an interviewer-administered questionnaire, proxy reporting and substantial underreporting for teenagers were cited as possible reasons for the discrepancy between survey and sales data. The self-administered nature of the Canada Health Survey may have corrected for at least some of this underreporting.

While no survey can ever do better than give approximate measures of true distributions, the evidence here would suggest that the Canada Health Survey provides a somewhat closer approximation of the truth about the prevalence of smoking in Canada than the Smoking Habits of Canadian Survey. We can conclude, therefore, that smoking, particularly teenage smoking, is more prevalent than we had previously believed.

Other important findings of the Canada Health Survey relate to women's smoking habits. The proportion of women smokers under 25 is virtually the same as the proportion of men smokers. Over half the women under 25 are likely to have started smoking before age 16. This is in marked contrast to their grandmothers, mothers and older sisters — relatively few of whom are smokers — and among those who are, few began smoking before the age of 21.

Smoking is very definitely related to social status. Education and occupation show very clear relationships to current daily smoking. Those with low levels of education, those who are unemployed or in low status occupations are the most likely to be current daily cigarette smokers. Income, in contrast, is related to cigarette smoking, but the relationships are not statistically significant.

Epidemiological evidence has shown unequivocally that, over the long term, smoking can lead to serious illness and even death. However, cigarette smoking may also be related to short-term disability for some age groups.

With regard to the risks associated with smoking, there appears to be a definite tendency for smokers to compound their risks. Nearly all pipe and cigar smokers also smoke cigarettes; people who smoke the most cigarettes are the least likely to try to reduce their smoking; those who have been smoking cigarettes for the longest time also have the highest potential daily tar exposure.

Not only are risks from smoking compounded one upon another, smoking is significantly related to drinking. The more one drinks, the more likely one is to smoke, and to smoke heavily. The evidence presented here suggests that researchers, governments and health professionals should direct a great deal more attention to the potentially serious health consequences of interacting multiple risk factors, particularly smoking and drinking.

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1 *Smoking Habits of Canadians: 1977.* Ottawa: Promotion and Prevention Directorate, Health and Welfare Canada, 1979.

2 This classification was recommended as an international standard by a workshop organized by the *Union Internationale Contre le Cancer.* The categories used partially control for preferences for numbers ending in "0" or "5" in the reporting of cigarettes smoked. Detailed analysis, not reported here, revealed overwhelming "0" and "5" final digit preference in the reporting of the number of cigarettes smoked per day in the Canada Health Survey. For further information on this topic, see: Standardization of measurement of smoking rates: recommendations of a workshop sponsored by the *Union Internationale Contre le Cancer* (UICC), *Preventive Medicine,* 1978, Vol. 7, pp. 260-268.

3 *Smoking and Its Effects on Health.* Geneva: World Health Organization. Technical Report No. 568, 1975.

4 A large proportion of respondents (11.8%) skipped Question 1 (Appendix I, page 216, from which information on the smoking of pipes, cigars and cigarillos was derived. Detailed investigation revealed that the design of the question inadvertently encouraged persons who smoked neither pipes, cigars nor cigarillos to skip the question, when in fact they should have checked the box marked "none of these". The total number of pipe, cigar and cigarillo smokers shown in Table 17 is not greatly affected by this error.

5 Ouellet, B.L., Romeder, J.-M., and Lance, J.-M. *Premature Mortality Attributable to Smoking and Hazardous Drinking in Canada — Volume I: Summary.* Ottawa: Long Range Health Planning Branch, Department of National Health and Welfare, 1977.

6 Belloc, N.B., Relationship of health practices and mortality, *Preventive Medicine,* 1973, Vol. 2, pp. 67-81, and Belloc, N.B. and Breslow, L., Relationship of physical health status and health practices, *Preventive Medicine,* 1972, Vol. 1, pp. 409-421.

7 *Smoking and Its Effects on Health, op. cit.*

8 *Smoking Habits of Canadians: 1977, op. cit.*, and unpublished data from the Health Promotion Directorate, Health and Welfare Canada, 1980.

9 Thompson, M.E. *Statistics on Smoking in Canada.* Ottawa: Promotion and Prevention Directorate, Health and Welfare Canada, Catalogue No. ERD-78-166, 1978.

TABLE 11. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Sex, Canada, 1978-79

		Type of cigarette smoker										
		Total	Never smoked	Former smoker	Current occa-sional smoker	Current daily smokers and number of cigarettes smoked daily						Type of smoker unknown
						Total	1-12	13-22	23-32	33 and over	Number unknown	
		in thousands										
Age 15 and over:												
Both sexes	No.	17,492	5,393	3,941	557	6,525	1,803	2,393	1,626	552	152	1,076
	%	100.0	30.8	22.5	3.2	37.3	10.3	13.7	9.3	3.2	.9	6.1
Male	No.	8,584	1,984	2,317	244	3,545	801	1,251	1,009	387	97	495
	%	100.0	23.1	27.0	2.8	41.3	9.3	14.6	11.8	4.5	1.1	5.8
Female	No.	8,907	3,409	1,624	313	2,981	1,002	1,142	617	164	55	581
	%	100.0	38.3	18.2	3.5	33.5	11.2	12.8	6.9	1.8	.6	6.5
15-19:												
Male	No.	1,187	511	167	43	383	169	154	39	..	..	83
	%	100.0	43.0	14.0	3.6	32.3	14.2	12.9	3.3	..	..	7.0
Female	No.	1,146	440	190	71	388	193	133	51	..	..	56
	%	100.0	38.4	16.6	6.2	33.9	16.9	11.6	4.4	..	..	4.9
20-24:												
Male	No.	1,106	298	188	39	541	139	198	156	41	..	40
	%	100.0	27.0	17.0	3.5	48.9	12.5	17.9	14.1	3.7	..	3.6
Female	No.	1,108	309	219	48	501	187	209	80	20	..	31
	%	100.0	27.9	19.8	4.3	45.2	16.9	18.9	7.2	1.8	..	2.8
25-44:												
Male	No.	3,230	694	845	104	1,440	217	524	482	199	18	146
	%	100.0	21.5	26.2	3.2	44.6	6.7	16.2	14.9	6.2	.5	4.5
Female	No.	3,242	1,078	692	130	1,208	314	470	312	89	23	134
	%	100.0	33.3	21.4	4.0	37.2	9.7	14.5	9.6	2.7	.7	4.1
45-64:												
Male	No.	2,174	330	752	40	918	180	290	289	130	29	134
	%	100.0	15.2	34.6	1.8	42.2	8.3	13.3	13.3	6.0	1.3	6.1
Female	No.	2,279	917	395	49	728	224	294	160	39	11	189
	%	100.0	40.2	17.3	2.1	32.0	9.8	12.9	7.0	1.7	.5	8.3
65 and over:												
Male	No.	887	150	365	18	262	96	85	44	..	26	93
	%	100.0	16.9	41.2	2.0	29.5	10.8	9.5	4.9	..	3.0	10.4
Female	No.	1,132	665	127	15	156	84	37	14	..	..	169
	%	100.0	58.8	11.2	1.3	13.7	7.4	3.2	1.2	..	..	15.0

TABLE 12. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Sex, Canada and Regions, 1978-79

		Type of cigarette smoker										
		Total	Never smoked	Former smoker	Current occasional smoker	Current daily smokers and number of cigarettes smoked daily						Type of smoker unknown
						Total	1-12	13-22	23-32	33 and over	Number unknown	
		in thousands										
Canada:												
Both sexes	No.	17,492	5,393	3,941	557	6,525	1,803	2,393	1,626	552	152	1,076
	%	100.0	30.8	22.5	3.2	37.3	10.3	13.7	9.3	3.2	.9	6.1
Male	No.	8,584	1,984	2,317	244	3,545	801	1,251	1,009	387	97	495
	%	100.0	23.1	27.0	2.8	41.3	9.3	14.6	11.8	4.5	1.1	5.8
Female	No.	8,907	3,409	1,624	313	2,981	1,002	1,142	617	164	55	581
	%	100.0	38.3	18.2	3.5	33.5	11.2	12.8	6.9	1.8	.6	6.5
Atlantic region:												
Male	No.	781	151	191	25	353	78	135	90	40	11	62
	%	100.0	19.3	24.4	3.2	45.2	9.9	17.3	11.6	5.1	1.3	7.9
Female	No.	804	306	124	19	291	102	103	65	13	8	64
	%	100.0	38.1	15.4	2.3	36.2	12.7	12.8	8.0	1.7	1.0	8.0
Quebec:												
Male	No.	2,321	439	578	86	1,121	238	394	315	144	30	98
	%	100.0	18.9	24.9	3.7	48.3	10.2	17.0	13.6	6.2	1.3	4.2
Female	No.	2,437	833	432	125	927	305	333	210	68	..	120
	%	100.0	34.2	17.7	5.1	38.0	12.5	13.7	8.6	2.8	..	4.9
Ontario:												
Male	No.	3,115	792	882	86	1,151	281	379	339	113	39	204
	%	100.0	25.4	28.3	2.7	37.0	9.0	12.2	10.9	3.6	1.3	6.6
Female	No.	3,258	1,342	598	103	962	326	376	191	46	..	252
	%	100.0	41.2	18.4	3.2	29.5	10.0	11.6	5.9	1.4	..	7.7
Prairie region:												
Male	No.	1,422	372	399	36	556	144	189	173	39	11	59
	%	100.0	26.1	28.1	2.5	39.1	10.1	13.3	12.2	2.7	.8	4.2
Female	No.	1,434	550	260	49	500	163	194	113	21	8	77
	%	100.0	38.3	18.1	3.4	34.8	11.4	13.6	7.9	1.5	.6	5.4
British Columbia:												
Male	No.	944	229	267	12	364	61	154	91	52	..	72
	%	100.0	24.3	28.3	1.3	38.5	6.4	16.3	9.6	5.5	..	7.6
Female	No.	974	378	210	18	300	105	136	39	16	..	67
	%	100.0	38.8	21.6	1.8	30.8	10.8	13.9	4.0	1.6	..	6.9

TABLE 13. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Major Activity and Sex, Canada, 1978-79

Major activity		Type of cigarette smoker										
		Total	Never smoked	Former smoker	Current occasional smoker	Current daily smokers and number of cigarettes smoked daily						Type of smoker unknown
						Total	1-12	13-22	23-32	33 and over	Number unknown	
		in thousands										
Total	**No.**	**17,492**	**5,393**	**3,941**	**557**	**6,525**	**1,803**	**2,393**	**1,626**	**552**	**152**	**1,076**
	%	**100.0**	**30.8**	**22.5**	**3.2**	**37.3**	**10.3**	**13.7**	**9.3**	**3.2**	**.9**	**6.1**
Male	**No.**	**8,584**	**1,984**	**2,317**	**244**	**3,545**	**801**	**1,251**	**1,009**	**387**	**97**	**495**
	%	**100.0**	**23.1**	**27.0**	**2.8**	**41.3**	**9.3**	**14.6**	**11.8**	**4.5**	**1.1**	**5.8**
Female	**No.**	**8,907**	**3,409**	**1,624**	**313**	**2,981**	**1,002**	**1,142**	**617**	**164**	**55**	**581**
	%	**100.0**	**38.3**	**18.2**	**3.5**	**33.5**	**11.2**	**12.8**	**6.9**	**1.8**	**.6**	**6.5**
Working:												
Male	No.	6,013	1,203	1,661	163	2,686	498	939	864	332	53	300
	%	100.0	20.0	27.6	2.7	44.7	8.3	15.6	14.4	5.5	.9	5.0
Female	No.	3,100	1,036	626	112	1,176	364	450	277	65	20	150
	%	100.0	33.4	20.2	3.6	37.9	11.8	14.5	8.9	2.1	.6	4.8
Housework:												
Male	No.	27	..	..	.	..	..	..	..	..	.	..
	%	100.0	..	..	.	..	..	..	..	..	.	..
Female	No.	4,213	1,683	748	115	1,359	424	532	291	87	25	308
	%	100.0	40.0	17.8	2.7	32.3	10.1	12.6	6.9	2.1	.6	7.3
School:												
Male	No.	1,187	556	175	56	294	140	107	31	..	..	86
	%	100.0	47.6	15.0	4.8	25.2	12.0	9.1	2.6	..	..	7.4
Female	No.	1,041	441	179	76	300	156	112	25	..	..	45
	%	100.0	42.4	17.2	7.3	28.9	15.0	10.8	2.4	..	..	4.3
Retired:												
Male	No.	973	160	400	16	312	108	103	56	14	31	85
	%	100.0	16.5	41.1	1.6	32.0	11.1	10.6	5.8	1.4	3.1	8.8
Female	No.	386	200	54	..	64	38	13	5	..	..	64
	%	100.0	51.8	14.1	..	16.5	10.0	3.3	1.2	..	..	16.6
Other:												
Male	No.	404	58	69	..	245	50	100	57	35	..	22
	%	100.0	14.4	17.1	..	60.8	12.5	24.9	14.2	8.7	..	5.4
Female	No.	167	49	17	..	82	19	35	21	..	..	..
	%	100.0	29.5	10.1	..	49.0	11.2	21.1	12.4	..	..	.

TABLE 14. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Education, Canada, 1978-79

Education		Type of cigarette smoker						
		Total	Occasional and non-smokers	Current daily smokers and number of cigarettes smoked daily				Type of smoker unknown
				Total	1-22	23 and over	Number unknown	
		in thousands						
Age 15 and over:								
Total	No.	17,492	9,891	6,525	4,196	2,178	152	1,076
	%	100.0	56.5	37.3	24.0	12.4	.9	6.1
Presently in school	No.	1,192	843	277	251	17	--	72
	%	100.0	70.7	23.2	21.0	1.4	--	6.1
Secondary or less	No.	11,574	5,899	4,863	3,024	1,716	123	813
	%	100.0	51.0	42.0	26.1	14.8	1.1	7.0
Some post-secondary	No.	1,485	935	490	345	138	--	59
	%	100.0	63.0	33.0	23.3	9.3	--	4.0
Post-secondary, degree or diploma	No.	3,150	2,165	859	554	293	12	126
	%	100.0	68.7	27.3	17.6	9.3	.4	4.0
Education unknown	No.	90	49	36	22	13	--	5
	%	100.0	54.6	40.1	24.3	14.8	--	5.3
15-19:								
Total	No.	2,333	1,422	772	649	98	25	139
	%	100.0	60.9	33.1	27.8	4.2	1.1	6.0
Presently in school	No.	1,185	837	276	250	17	--	72
	%	100.0	70.6	23.3	21.1	1.5	--	6.1
Secondary or less	No.	878	404	418	331	74	--	55
	%	100.0	46.1	47.6	37.7	8.4	--	6.3
Some post-secondary	No.	238	162	66	59	--	--	--
	%	100.0	67.8	27.8	24.8	--	--	--
Post-secondary, degree or diploma	No.	19	--	--	--	--	--	-
	%	100.0	--	--	--	--	--	-
Education unknown	No.	13	--	--	--	--	-	--
	%	100.0	--	--	--	--	-	--
20-24:								
Total	No.	2,215	1,102	1,041	733	297	12	71
	%	100.0	49.8	47.0	33.1	13.4	.5	3.2
Secondary or less	No.	1,340	515	769	521	238	--	56
	%	100.0	38.4	57.4	38.9	17.8	--	4.2
Some post-secondary	No.	373	238	129	105	23	--	--
	%	100.0	63.7	34.5	28.1	6.0	--	--
Post-secondary, degree or diploma	No.	486	337	141	105	36	--	--
	%	100.0	69.3	29.0	21.5	7.5	--	--
Education unknown	No.	11	--	--	--	-	--	-
	%	100.0	--	--	--	-	--	-

TABLE 14. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Education, Canada, 1978-79 - Concluded

Education		Type of cigarette smoker						
		Total	Occasional and non-smokers	Current daily smokers and number of cigarettes smoked daily				Type of smoker unknown
				Total	1-22	23 and over	Number unknown	
		in thousands						
25-44:								
Total	No.	6,472	3,544	2,648	1,525	1,082	41	281
	%	100.0	54.8	40.9	23.6	16.7	.6	4.3
Secondary or less	No.	4,059	1,929	1,945	1,088	824	33	185
	%	100.0	47.5	47.9	26.8	20.3	.8	4.5
Some post-secondary	No.	544	322	200	114	82	..	..
	%	100.0	59.2	36.7	20.9	15.0	..	..
Post-secondary, degree or diploma	No.	1,846	1,280	494	315	176	..	72
	%	100.0	69.3	26.8	17.1	9.5	..	3.9
Education unknown	No.	21	10	..	..	..	..	..
	%	100.0	49.8	..	..	..	..	..
45-64:								
Total	No.	4,453	2,483	1,647	988	618	40	323
	%	100.0	55.8	37.0	22.2	13.9	.9	7.3
Secondary or less	No.	3,582	1,916	1,378	830	514	34	289
	%	100.0	53.5	38.5	23.2	14.4	.9	8.1
Some post-secondary	No.	238	154	73	50	24	-	11
	%	100.0	64.6	30.8	20.9	9.9	-	4.7
Post-secondary, degree or diploma	No.	594	397	174	99	69	..	22
	%	100.0	66.9	29.3	16.8	11.6	..	3.8
Education unknown	No.	38	16	21	..	..	-	..
	%	100.0	41.7	55.2	..	..	-	..
65 and over:								
Total	No.	2,019	1,340	417	301	82	35	262
	%	100.0	66.4	20.7	14.9	4.1	1.7	13.0
Secondary or less	No.	1,716	1,135	352	254	66	33	228
	%	100.0	66.2	20.5	14.8	3.8	1.9	13.3
Some post-secondary	No.	91	80	22	18	..	-	..
	%	100.0	65.7	24.3	19.7	..	-	..
Post-secondary, degree or diploma	No.	205	141	40	28	..	..	24
	%	100.0	68.7	19.7	13.4	..	..	11.5
Education unknown	No.	..	..	..	..	..	-	..
	%	..	..	..	..	..	-	..

TABLE 15. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Income Quintiles, Canada, 1978-79

Income quintiles		Type of cigarette smoker						
		Total	Occasional and non-smokers	Current daily smokers and number of cigarettes smoked daily				Type of smoker unknown
				Total	1-22	23 and over	Number unknown	
		In thousands						
Age 15 and over:								
Total	**No.**	**17,492**	**9,891**	**6,525**	**4,196**	**2,178**	**152**	**1,076**
	%	**100.0**	**56.5**	**37.3**	**24.0**	**12.4**	**.9**	**6.1**
First quintile	**No.**	**3,067**	**1,687**	**1,127**	**724**	**362**	**41**	**253**
	%	**100.0**	**55.0**	**36.7**	**23.6**	**11.8**	**1.3**	**8.3**
Second quintile	**No.**	**2,928**	**1,531**	**1,201**	**811**	**356**	**34**	**196**
	%	**100.0**	**52.3**	**41.0**	**27.7**	**12.2**	**1.2**	**6.7**
Third quintile	**No.**	**3,037**	**1,618**	**1,170**	**791**	**355**	**25**	**248**
	%	**100.0**	**53.3**	**38.5**	**26.0**	**11.7**	**.8**	**8.2**
Fourth quintile	**No.**	**3,467**	**2,036**	**1,271**	**811**	**437**	**24**	**160**
	%	**100.0**	**58.7**	**36.7**	**23.4**	**12.6**	**.7**	**4.6**
Fifth quintile	**No.**	**4,040**	**2,493**	**1,399**	**828**	**547**	**23**	**149**
	%	**100.0**	**61.7**	**34.6**	**20.5**	**13.5**	**.6**	**3.7**
Income unknown	**No.**	**952**	**525**	**357**	**232**	**120**	**5**	**70**
	%	**100.0**	**55.2**	**37.5**	**24.3**	**12.6**	**.5**	**7.3**
15-19:								
Total	No.	2,333	1,422	772	649	98	25	139
	%	100.0	60.9	33.1	27.8	4.2	1.1	6.0
First quintile	No.	464	266	168	141	18	..	30
	%	100.0	57.3	36.1	30.5	3.8	..	6.6
Second quintile	No.	450	248	174	143	27	..	28
	%	100.0	55.2	38.6	31.8	6.1	..	6.2
Third quintile	No.	404	253	127	103	15	..	24
	%	100.0	62.6	31.5	25.5	3.7	..	5.9
Fourth quintile	No.	450	287	135	118	14	..	28
	%	100.0	63.8	30.0	26.2	3.2	..	6.2
Fifth quintile	No.	333	231	85	73	11	.	17
	%	100.0	69.4	25.4	22.0	3.4	.	5.2
Income unknown	No.	231	136	83	70	12	..	12
	%	100.0	58.8	36.1	30.2	5.3	..	5.2
20-24:								
Total	No.	2,215	1,102	1,041	733	297	12	71
	%	100.0	49.8	47.0	33.1	13.4	.5	3.2
First quintile	No.	313	172	130	82	46	..	..
	%	100.0	55.1	41.6	26.2	14.7	..	..
Second quintile	No.	283	123	153	118	32	..	..
	%	100.0	43.3	53.9	41.8	11.2	..	..
Third quintile	No.	407	185	209	145	62	..	..
	%	100.0	45.4	51.3	35.7	15.3	..	..
Fourth quintile	No.	506	259	238	164	74	.	..
	%	100.0	51.2	47.1	32.5	14.6	.	..
Fifth quintile	No.	552	290	246	176	65	..	..
	%	100.0	52.6	44.6	31.9	11.8	..	..
Income unknown	No.	153	73	65	46	18	..	..
	%	100.0	47.6	42.5	30.3	11.7	..	..

TABLE 15. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Income Quintiles, Canada, 1978-79 - Concluded

Income quintiles		Type of cigarette smoker						
		Total	Occasional and non-smokers	Current daily smokers and number of cigarettes smoked daily				Type of smoker unknown
				Total	1-22	23 and over	Number unknown	
		in thousands						
25-44:								
Total	No.	6,472	3,544	2,648	1,525	1,082	41	281
	%	100.0	54.8	40.9	23.6	16.7	.6	4.3
First quintile	No.	858	405	414	224	177	13	38
	%	100.0	47.2	48.3	26.2	20.7	1.5	4.5
Second quintile	No.	1,170	567	552	321	219	13	51
	%	100.0	48.5	47.2	27.4	18.7	1.1	4.3
Third quintile	No.	1,269	635	531	328	202	..	..
	%	100.0	50.1	41.8	25.8	15.9	..	..
Fourth quintile	No.	1,348	816	491	285	203	..	41
	%	100.0	60.5	36.4	21.1	15.1	..	3.0
Fifth quintile	No.	1,577	984	555	312	233	..	38
	%	100.0	62.4	35.2	19.8	14.8	..	2.4
Income unknown	No.	252	137	105	55	47	..	..
	%	100.0	54.5	41.7	21.9	18.7	..	..
45-64:								
Total	No.	4,453	2,483	1,647	988	618	40	323
	%	100.0	55.8	37.0	22.2	13.9	.9	7.3
First quintile	No.	659	353	248	157	85	6	58
	%	100.0	53.5	37.7	23.9	12.9	.9	8.9
Second quintile	No.	571	302	220	144	68	..	50
	%	100.0	52.8	38.5	25.2	11.9	..	8.7
Third quintile	No.	676	357	254	177	72	..	65
	%	100.0	52.9	37.6	26.3	10.7	..	9.6
Fourth quintile	No.	943	520	361	213	136	..	62
	%	100.0	55.1	38.3	22.6	14.5	..	6.5
Fifth quintile	No.	1,330	803	463	239	214	..	64
	%	100.0	60.4	34.8	18.0	16.1	..	4.8
Income unknown	No.	274	150	100	57	42	..	25
	%	100.0	54.6	36.4	20.8	15.4	..	9.0
65 and over:								
Total	No.	2,019	1,340	417	301	82	35	262
	%	100.0	66.4	20.7	14.9	4.1	1.7	13.0
First quintile	No.	774	491	166	118	36	..	116
	%	100.0	63.5	21.5	15.3	4.7	..	15.0
Second quintile	No.	453	292	102	84	10	..	60
	%	100.0	64.3	22.5	18.5	2.3	..	13.2
Third quintile	No.	280	188	49	37	..	..	44
	%	100.0	66.9	17.5	13.2	..	..	15.6
Fourth quintile	No.	220	154	46	31	..	..	20
	%	100.0	70.0	20.8	14.1	..	..	9.2
Fifth quintile	No.	249	185	50	27	..	..	..
	%	100.0	74.3	20.2	10.9	..	..	..
Income unknown	No.	43	30	..	..	..	-	..
	%	100.0	70.5	..	..	..	-	..

TABLE 16. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Sex and Occupation, Canada, 1978-79

Occupation		Type of cigarette smoker						
		Total	Occasional and non-smokers	Current daily smokers and number of cigarettes smoked daily				Type of smoker unknown
				Total	1-22	23 and over	Number unknown	
		in thousands						
Both sexes:								
Total	**No.**	**17,492**	**9,891**	**6,525**	**4,196**	**2,178**	**152**	**1,076**
	%	**100.0**	**56.5**	**37.3**	**24.0**	**12.4**	**.9**	**6.1**
Total employed	No.	9,838	5,283	4,062	2,449	1,538	74	493
	%	100.0	53.7	41.3	24.9	15.6	.8	5.0
Managerial and professional	No.	2,323	1,515	733	449	270	--	75
	%	100.0	65.2	31.5	19.3	11.6	--	3.2
Other white collar	No.	3,968	2,116	1,675	1,056	591	27	176
	%	100.0	53.3	42.2	26.6	14.9	.7	4.5
Blue collar	No.	3,242	1,504	1,524	859	632	33	214
	%	100.0	46.4	47.0	26.5	19.5	1.0	6.6
Occupation unknown	No.	304	148	130	85	45	--	26
	%	100.0	48.7	42.8	28.0	14.7	--	8.5
Unemployed	No.	1,169	535	581	396	176	--	54
	%	100.0	45.8	49.7	33.9	15.1	--	4.6
Not in labour force	No.	6,316	3,965	1,836	1,316	453	67	516
	%	100.0	62.8	29.1	20.8	7.2	1.1	8.2
Labour force status unknown	No.	168	108	47	35	..	..	13
	%	100.0	64.2	28.0	20.6	..	..	7.7
Male:								
Total	**No.**	**8,584**	**4,545**	**3,545**	**2,052**	**1,396**	**97**	**495**
	%	**100.0**	**52.9**	**41.3**	**23.9**	**16.3**	**1.1**	**5.8**
Total employed	No.	6,197	3,164	2,711	1,491	1,166	54	322
	%	100.0	51.1	43.7	24.1	18.8	.9	5.2
Managerial and professional	No.	1,392	871	475	262	205	..	..
	%	100.0	62.6	34.1	18.8	14.7	..	..
Other white collar	No.	1,756	891	771	413	340	18	94
	%	100.0	50.7	43.9	23.5	19.4	1.1	5.3
Blue collar	No.	2,858	1,315	1,379	764	588	27	164
	%	100.0	46.0	48.2	26.7	20.6	.9	5.7
Occupation unknown	No.	192	87	66	52	33	..	19
	%	100.0	45.5	44.7	27.2	17.4	..	9.8
Unemployed	No.	522	216	283	179	97	..	24
	%	100.0	41.3	54.1	34.2	18.5	..	4.5
Not in labour force	No.	1,784	1,110	528	365	128	35	146
	%	100.0	62.2	29.6	20.5	7.2	1.9	8.2
Labour force status unknown	No.	80	54	22	17	..	..	..
	%	100.0	67.8	28.0	21.1	..	..	..
Female:								
Total	**No.**	**8,907**	**5,346**	**2,981**	**2,144**	**782**	**55**	**581**
	%	**100.0**	**60.0**	**33.5**	**24.1**	**8.8**	**.6**	**6.5**
Total employed	No.	3,641	2,119	1,351	958	372	20	171
	%	100.0	58.2	37.1	26.3	10.2	.6	4.7
Managerial and professional	No.	931	644	257	187	65	..	30
	%	100.0	69.1	27.6	20.0	7.0	..	3.2
Other white collar	No.	2,213	1,225	904	643	251	9	84
	%	100.0	55.4	40.8	29.1	11.4	.4	3.8
Blue collar	No.	384	189	145	95	44	..	..
	%	100.0	49.2	37.8	24.6	11.5	..	..
Occupation unknown	No.	113	61	45	33	..	..	..
	%	100.0	54.2	39.5	29.2	..	..	..
Unemployed	No.	647	319	298	217	79	1	30
	%	100.0	49.4	46.0	33.5	12.3	.2	4.6
Not in labour force	No.	4,532	2,854	1,307	951	324	32	370
	%	100.0	63.0	28.9	21.0	7.2	.7	8.2
Labour force status unknown	No.	88	54	25	18	6	1	10
	%	100.0	61.0	28.0	20.2	6.2	1.5	11.0

TABLE 17. Daily Pipe, Cigar or Cigarillo Smokers by Cigarette Smoking Status, by Age and Sex, Canada, 1978-79

		Type of cigarette smoker					
		Total	Never smoked	Former smokers	Current occasional smokers	Current daily smokers	Unknown
		in thousands					
Age 15 and over:							
Both sexes	**No.**	**1,207**	**63**	**181**	**43**	**878**	**43**
	%	**100.0**	**5.2**	**15.0**	**3.5**	**72.7**	**3.6**
Male	**No.**	**907**	**60**	**169**	**40**	**603**	**35**
	%	**100.0**	**6.6**	**18.7**	**4.4**	**66.5**	**3.8**
Female	**No.**	**300**	..	..	..	**275**	..
	%	**100.0**	..	..	..	**91.6**	..
15-19:							
Male	No.	84	..	..	2	78	.
	%	100.0	..	..	1.8	92.8	.
Female	No.	71	..	..	1	64	..
	%	100.0	..	..	1.4	89.1	..
20-24:							
Male	No.	96	..	..	..	80	..
	%	100.0	..	..	..	83.2	..
Female	No.	56	.	..	..	54	.
	%	100.0	.	..	..	97.6	.
25-44:							
Male	No.	326	**24**	72	..	210	..
	%	100.0	**7.4**	22.2	..	64.3	..
Female	No.	98	..	..	..	92	..
	%	100.0	..	..	..	93.2	..
45-64:							
Male	No.	289	**20**	56	..	186	**16**
	%	100.0	**6.8**	19.5	..	64.4	**5.6**
Female	No.	59	..	..	.	56	.
	%	100.0	..	..	.	95.4	.
65 and over:							
Male	No.	112	**13**	29	..	49	**11**
	%	100.0	**12.1**	26.3	..	44.2	**9.9**
Female	No.	**16**	..	..	.	**9**	..
	%	**100.0**	..	..	.	**57.8**	..

TABLE 18. Population 15 Years and Over who are Current Daily Smokers by Attempts to Reduce Smoking, by Age and Number of Cigarettes Smoked Daily, Canada, 1978-79

		Current daily cigarette smokers by attempts to reduce smoking				
		Total	Clear attempt to reduce	Mixed attempt to reduce	No attempt to reduce	Reduction attempt unknown
		in thousands				
Age 15 and over:						
Total	**No.**	**6,525**	**2,114**	**1,531**	**2,696**	**184**
	%	**100.0**	**32.4**	**23.5**	**41.3**	**2.8**
Number of cigarettes smoked daily:						
1-12	No.	1,803	703	426	623	50
	%	100.0	39.0	23.7	34.6	2.8
13-22	No.	2,393	782	597	982	32
	%	100.0	32.7	25.0	41.0	1.3
23-32	No.	1,626	443	353	809	21
	%	100.0	27.2	21.7	49.8	1.3
33 and over	No.	552	158	132	258	..
	%	100.0	28.7	23.9	46.8	..
Number unknown	No.	152	29	22	24	77
	%	100.0	18.8	14.8	15.8	50.7
15-19:						
Total	**No.**	**772**	**307**	**208**	**233**	**23**
	%	**100.0**	**39.8**	**26.9**	**30.2**	**3.0**
Number of cigarettes smoked daily:						
1-12	No.	362	181	81	92	..
	%	100.0	50.0	22.4	25.3	..
13-22	No.	287	90	85	109	..
	%	100.0	31.5	29.7	37.9	..
23-32	No.	90	27	34	28	..
	%	100.0	30.3	37.9	30.8	..
33 and over	No.	..	..	..	..	..
	%	..	..	..	..	..
Number unknown	No.	25	..	..	..	..
	%	100.0	..	..	..	..
20-24:						
Total	**No.**	**1,041**	**378**	**280**	**374**	**9**
	%	**100.0**	**36.3**	**26.9**	**35.9**	**.9**
Number of cigarettes smoked daily:						
1-12	No.	326	133	88	102	..
	%	100.0	40.9	27.0	31.3	..
13-22	No.	407	146	113	147	..
	%	100.0	35.8	27.7	36.1	..
23-32	No.	236	81	55	98	..
	%	100.0	34.2	23.3	41.6	..
33 and over	No.	61	15	19	26	..
	%	100.0	25.3	30.9	42.5	..
Number unknown	No.	12	..	..	..	..
	%	100.0	..	..	..	..

TABLE 18. Population 15 Years and Over who are Current Daily Smokers by Attempts to Reduce Smoking, by Age and Number of Cigarettes Smoked Daily, Canada, 1978-79 - Concluded

		Current daily cigarette smokers by attempts to reduce smoking				
		Total	Clear attempt to reduce	Mixed attempt to reduce	No attempt to reduce	Reduction attempt unknown
		in thousands				
25-44:						
Total	**No.**	**2,648**	**848**	**602**	**1,157**	**42**
	%	**100.0**	**32.0**	**22.7**	**43.7**	**1.6**
Number of cigarettes smoked daily:						
1-12	No.	531	199	117	205	..
	%	100.0	37.6	22.0	38.7	..
13-22	No.	994	342	245	401	..
	%	100.0	34.4	24.7	40.3	..
23-32	No.	794	218	164	406	..
	%	100.0	27.5	20.7	51.1	..
33 and over	No.	288	81	69	136	..
	%	100.0	28.1	24.1	47.2	..
Number unknown	No.	41	7	..	..	19
	%	100.0	17.5	..	..	47.8
45-64:						
Total	**No.**	**1,647**	**475**	**354**	**751**	**66**
	%	**100.0**	**28.9**	**21.5**	**45.6**	**4.0**
Number of cigarettes smoked daily:						
1-12	No.	404	131	98	156	19
	%	100.0	32.5	24.2	38.6	4.7
13-22	No.	584	185	120	264	16
	%	100.0	31.6	20.5	45.2	2.7
23-32	No.	449	107	93	240	9
	%	100.0	23.8	20.8	53.5	1.9
33 and over	No.	169	45	40	83	..
	%	100.0	26.6	23.4	49.3	..
Number unknown	No.	40	..	..	..	21
	%	100.0	..	..	..	52.9
65 and over:						
Total	**No.**	**417**	**105**	**88**	**181**	**44**
	%	**100.0**	**25.1**	**21.1**	**43.4**	**10.4**
Number of cigarettes smoked daily:						
1-12	No.	180	58	43	68	..
	%	100.0	32.2	23.9	37.9	..
13-22	No.	121	19	35	62	..
	%	100.0	15.5	28.6	51.2	..
23-32	No.	57	..	..	37	..
	%	100.0	..	..	64.8	..
33 and over	No.	25	..	..	..	.
	%	100.0	..	..	..	.
Number unknown	No.	35	..	..	..	23
	%	100.0	..	..	..	66.2

TABLE 19. Population 15 Years and Over by Potential Daily Tar Exposure and Duration in Years of Cigarette Smoking for Men and Women who are Current Daily Cigarette Smokers, Canada, 1978-79

Duration of cigarette smoking in years		Current daily cigarette smokers by potential daily tar exposure (milligrams per day)						
		Total	1-99	100-199	200-299	300-399	400 or more	Tar exposure unknown
		in thousands						
Both sexes:								
Total	**No.**	**6,525**	**766**	**1,349**	**1,470**	**1,325**	**1,347**	**268**
	%	**100.0**	**11.7**	**20.7**	**22.5**	**20.3**	**20.6**	**4.1**
Less than 10	**No.**	**2,066**	**287**	**565**	**504**	**389**	**263**	**58**
	%	**100.0**	**13.9**	**27.4**	**24.4**	**18.8**	**12.7**	**2.8**
10-19	**No.**	**1,627**	**158**	**265**	**385**	**348**	**430**	**40**
	%	**100.0**	**9.7**	**16.3**	**23.6**	**21.4**	**26.5**	**2.5**
20 or more	**No.**	**2,694**	**300**	**502**	**564**	**573**	**641**	**114**
	%	**100.0**	**11.1**	**18.6**	**20.9**	**21.3**	**23.8**	**4.2**
Duration unknown	**No.**	**138**	**21**	**17**	**..**	**..**	**..**	**56**
	%	**100.0**	**14.9**	**12.1**	**..**	**..**	**..**	**40.4**
Male:								
Total	No.	3,545	305	598	778	784	923	156
	%	100.0	8.6	16.9	22.0	22.1	26.0	4.4
Less than 10	No.	1,003	95	253	251	204	170	31
	%	100.0	9.5	25.2	25.0	20.3	16.9	3.1
10-19	No.	860	72	109	195	186	280	17
	%	100.0	8.4	12.6	22.7	21.7	32.6	2.0
20 or more	No.	1,587	126	222	315	387	463	72
	%	100.0	8.0	14.0	19.9	24.4	29.2	4.6
Duration unknown	No.	95	..	..	..	..	..	35
	%	100.0	..	..	..	..	..	37.2
Female:								
Total	No.	2,981	461	751	692	540	423	113
	%	100.0	15.5	25.2	23.2	18.1	14.2	3.8
Less than 10	No.	1,063	192	313	254	185	93	27
	%	100.0	18.1	29.4	23.9	17.4	8.7	2.6
10-19	No.	767	86	156	189	162	151	23
	%	100.0	11.2	20.4	24.7	21.1	19.6	3.0
20 or more	No.	1,107	174	280	248	186	178	42
	%	100.0	15.7	25.3	22.5	16.8	16.0	3.8
Duration unknown	No.	43	..	..	..	..	..	20
	%	100.0	..	..	..	..	..	47.2

TABLE 20. Population 15 Years and Over by Ages at Which Cigarette Smoking Began, by Current Age and Sex, Canada, 1978-79

Current age		Age at which cigarette smoking began for current daily cigarette smokers							
		Total	Less than 14 years	14-15 years	16-17 years	18-19 years	20-21 years	22 years and over	Unknown
		in thousands							
Age 15 and over:									
Both sexes	No.	**6,525**	**691**	**1,447**	**1,776**	**1,108**	**640**	**725**	**138**
	%	**100.0**	**10.6**	**22.2**	**27.2**	**17.0**	**9.8**	**11.1**	**2.1**
Male	No.	**3,545**	**443**	**897**	**996**	**569**	**325**	**219**	**95**
	%	**100.0**	**12.5**	**25.3**	**28.1**	**16.1**	**9.2**	**6.2**	**2.7**
Female	No.	**2,981**	**247**	**550**	**780**	**539**	**315**	**505**	**43**
	%	**100.0**	**8.3**	**18.5**	**26.2**	**18.1**	**10.6**	**17.0**	**1.5**
15-19									
Male	No.	383	103	163	100	..	-	-	..
	%	100.0	26.8	42.5	26.1	..	-	-	..
Female	No.	388	113	177	85	..	-	-	..
	%	100.0	29.1	45.5	21.8	..	-	-	..
20-24									
Male	No.	541	84	167	190	71	..	..	..
	%	100.0	15.6	30.9	35.2	13.1	..	..	..
Female	No.	501	71	128	190	91	16	..	..
	%	100.0	14.1	25.6	37.9	18.2	3.1	..	..
25-44:									
Male	No.	1,440	161	341	446	251	139	72	..
	%	100.0	11.2	23.7	31.0	17.4	9.7	5.0	..
Female	No.	1,208	51	194	383	277	136	149	..
	%	100.0	4.2	16.1	31.7	22.9	11.3	12.4	..
45-64:									
Male	No.	918	82	186	211	189	122	99	**29**
	%	100.0	8.9	20.3	22.9	20.6	13.3	10.8	**3.2**
Female	No.	728	..	**41**	116	148	142	255	..
	%	100.0	..	**5.6**	16.0	20.3	19.6	35.0	..
65 and over:									
Male	No.	262	..	40	49	46	49	43	**22**
	%	100.0	..	15.1	18.7	17.7	18.6	16.4	**8.3**
Female	No.	156	..	..	..	..	**21**	99	..
	%	100.0	..	..	..	..	**13.5**	63.7	..

TABLE 21. Population 15 Years and Over by Duration in Years of Cigarette Smoking for Former Daily Cigarette Smokers by Age and Sex, Canada, 1978-79

		Duration in years of cigarette smoking for former daily cigarette smokers				
		Total former daily cigarette smokers	Less than 10 years	10-19 years	20 years and over	Duration unknown
		in thousands				
Age 15 and over:						
Both sexes	**No.**	**2,548**	**802**	**692**	**916**	**137**
	%	**100.0**	**31.5**	**27.2**	**36.0**	**5.4**
Male	**No.**	**1,670**	**418**	**462**	**684**	**106**
	%	**100.0**	**25.0**	**27.7**	**41.0**	**6.3**
Female	**No.**	**877**	**384**	**229**	**232**	**32**
	%	**100.0**	**43.8**	**26.2**	**26.5**	**3.6**
15-19:						
Male	No.	54	51	.	.	..
	%	100.0	93.2	.	.	..
Female	No.	74	71	.	.	..
	%	100.0	95.0	.	.	..
20-24:						
Male	No.	108	103	..	.	..
	%	100.0	95.2	..	.	..
Female	No.	108	105	..	.	..
	%	100.0	96.4	..	.	..
25-44:						
Male	No.	609	214	307	63	25
	%	100.0	35.1	50.4	10.3	4.2
Female	No.	390	183	163	32	..
	%	100.0	47.0	41.8	8.2	..
45-64:						
Male	No.	623	45	143	397	39
	%	100.0	7.2	22.9	63.6	6.2
Female	No.	237	20	56	155	6
	%	100.0	8.4	23.6	65.5	2.5
65 and over:						
Male	No.	275	..	..	225	35
	%	100.0	..	..	81.6	12.5
Female	No.	68	..	10	45	..
	%	100.0	..	15.3	66.4	..

TABLE 22. Population 15 Years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Type of Drinker and Weekly Volume of Alcohol Consumed, Canada, 1978-79

Type of drinker and weekly volume of alcohol consumed		Type of cigarette smoker										
		Total	Never smoked	Former smoker	Current occasional smoker	Current daily smoker and number of cigarettes smoked daily						Type of smoker unknown
						Total	1-12	13-22	23-32	33 and over	Number unknown	
		in thousands										
Type of drinker:												
Total	**No.**	**17,492**	**5,393**	**3,941**	**557**	**6,525**	**1,803**	**2,393**	**1,626**	**552**	**152**	**1,076**
	%	**100.0**	**30.8**	**22.5**	**3.2**	**37.3**	**10.3**	**13.7**	**9.3**	**3.2**	**.9**	**6.1**
Never drank	No.	2,008	1,336	194	25	316	137	98	61	16	..	138
	%	100.0	66.5	9.6	1.2	15.7	6.8	4.9	3.0	.8	..	6.9
Former drinker	No.	653	110	229	..	263	48	99	58	42	16	41
	%	100.0	16.8	35.2	..	40.3	7.4	15.1	8.9	6.4	2.4	6.3
Occasional drinker	No.	2,642	1,006	623	106	819	232	303	204	58	22	88
	%	100.0	38.1	23.6	4.0	31.0	8.8	11.5	7.7	2.2	.8	3.3
Current drinker	No.	11,418	2,732	2,830	414	4,988	1,344	1,835	1,286	431	92	454
	%	100.0	23.9	24.8	3.6	43.7	11.8	16.1	11.3	3.8	.8	4.0
Current drinkers by weekly volume of alcohol:												
Less than 1 drink	No.	1,352	432	303	39	529	160	211	107	33	18	48
	%	100.0	31.9	22.4	2.9	39.2	11.9	15.6	7.9	2.4	1.3	3.6
0 drink	No.	4,585	1,295	1,173	177	1,804	568	729	380	107	19	137
	%	100.0	28.2	25.6	3.9	39.3	12.4	15.9	8.3	2.3	4	3.0
7-13 drinks	No.	2,306	504	631	91	1,035	254	395	290	84	13	46
	%	100.0	21.9	27.3	3.9	44.9	11.0	17.1	12.6	3.6	.6	2.0
14 drinks and over	No.	2,092	265	488	72	1,237	236	380	425	177	19	31
	%	100.0	12.7	23.3	3.4	59.1	11.3	18.2	20.3	8.4	.9	1.5
Weekly volume unknown	No.	1,082	236	235	35	384	126	121	85	30	22	192
	%	100.0	21.8	21.7	3.3	35.5	11.6	11.1	7.8	2.8	2.1	17.8
Type of drinker unknown	No.	771	209	65	..	140	41	58	16	..	..	354
	%	100.0	27.1	8.5	..	18.1	5.3	7.5	2.1	..	..	45.9

TABLE 23. Population 15 Years and Over by Type of Cigarette Smoker, by Age and Selected Health Behaviours, Canada, 1978-79

Selected behaviours		Type of cigarette smoker				
		Total	Never smoked	Occasional and former smokers	Current daily smokers	Unknown
		in thousands				
Age 15 and over:						
Total population(1)	**No.**	**17,492**	**5,393**	**4,498**	**6,525**	**1,076**
	%	**100.0**	**30.8**	**25.7**	**37.3**	**6.1**
Disability days	**No.**	**2,094**	**642**	**544**	**796**	**113**
	%	**100.0**	**30.7**	**26.0**	**38.0**	**5.4**
Recent consultations with health professionals	**No.**	**3,997**	**1,294**	**1,094**	**1,369**	**239**
	%	**100.0**	**32.4**	**27.4**	**34.3**	**6.0**
Drug use in the last two days	**No.**	**8,743**	**2,781**	**2,397**	**3,018**	**547**
	%	**100.0**	**31.8**	**27.4**	**34.5**	**6.3**
Activity limitation	**No.**	**2,447**	**716**	**673**	**883**	**175**
	%	**100.0**	**29.3**	**27.5**	**36.1**	**7.2**
None of the above	**No.**	**6,824**	**2,003**	**1,601**	**2,793**	**427**
	%	**100.0**	**29.4**	**23.5**	**40.9**	**6.3**
15-19:						
Total population(1)	No.	2,333	951	471	772	139
	%	100.0	40.8	20.2	33.1	6.0
Disability days	No.	224	78	47	76	23
	%	100.0	34.7	21.2	33.8	10.4
Recent consultations with health professionals	No.	432	173	89	143	28
	%	100.0	39.9	20.6	33.0	6.5
Drug use in the last two days	No.	827	312	200	249	66
	%	100.0	37.8	24.1	30.1	8.0
Activity limitation	No.	106	42	20	37	..
	%	100.0	39.6	19.3	35.4	..
None of the above	No.	1,215	512	205	436	61
	%	100.0	42.2	16.9	35.9	5.1
20-24:						
Total population(1)	No.	2,215	607	495	1,041	71
	%	100.0	27.4	22.4	47.0	3.2
Disability days	No.	256	50	69	132	..
	%	100.0	19.7	27.0	51.7	..
Recent consultations with health professionals	No.	513	153	110	232	..
	%	100.0	29.9	21.5	45.3	..
Drug use in the last two days	No.	905	255	226	409	15
	%	100.0	28.2	25.0	45.2	1.6
Activity limitation	No.	108	20	25	60	3
	%	100.0	18.2	23.4	55.4	3.0
None of the above	No.	1,019	280	211	485	43
	%	100.0	27.5	20.7	47.6	4.2

See footnote(s) at end of table.

TABLE 23. Population 15 Years and Over by Type of Cigarette Smoker, by Age and Selected Health Behaviours, Canada, 1978-79 – Concluded

Selected behaviours		Type of cigarette smoker				
		Total	Never smoked	Occasional and former smokers	Current daily smokers	Unknown
		in thousands				
25-44						
Total population(1)	No.	6,472	1,773	1,771	2,648	281
	%	100.0	27.4	27.4	40.9	4.3
Disability days	No.	749	223	198	304	23
	%	100.0	29.8	26.5	40.6	3.1
Recent consultations with health professionals	No.	1,426	420	417	532	56
	%	100.0	29.5	29.3	37.3	3.9
Drug use in the last two days	No.	2,915	819	842	1,158	96
	%	100.0	28.1	28.9	39.7	3.3
Activity limitation	No.	575	119	155	271	29
	%	100.0	20.8	27.0	47.2	5.1
None of the above	No.	2,801	728	711	1,205	157
	%	100.0	26.0	25.4	43.0	5.6
45-64						
Total population(1)	No.	4,453	1,247	1,236	1,647	323
	%	100.0	28.0	27.8	37.0	7.3
Disability days	No.	583	163	150	235	35
	%	100.0	28.0	25.7	40.3	6.0
Recent consultations with health professionals	No.	1,071	295	336	368	72
	%	100.0	27.5	31.4	34.3	6.6
Drug use in the last two days	No.	2,631	778	744	910	198
	%	100.0	29.6	28.3	34.6	7.5
Activity limitation	No.	932	239	255	364	73
	%	100.0	25.7	27.3	39.1	7.9
None of the above	No.	1,393	350	369	578	97
	%	100.0	25.1	26.4	41.5	7.0
65 and over						
Total population(1)	No.	2,019	815	525	417	262
	%	100.0	40.4	26.0	20.7	13.0
Disability days	No.	283	127	79	49	27
	%	100.0	45.1	27.9	17.5	9.6
Recent consultations with health professionals	No.	555	253	141	94	66
	%	100.0	45.6	25.5	17.0	11.9
Drug use in the last two days	No.	1,465	616	385	292	172
	%	100.0	42.1	26.3	19.9	11.7
Activity limitation	No.	726	296	217	150	64
	%	100.0	40.7	29.9	20.6	8.8
None of the above	No.	396	134	106	88	68
	%	100.0	33.8	26.6	22.3	17.3

(1) Because multiple responses were possible, columns do not add to totals.

TABLE 24. Population 15 years and Over by Type of Cigarette Smoker and Number of Cigarettes Smoked Daily, by Age and Disability Days in the Past Two Weeks, Canada, 1978-79

Disability days		Type of cigarette smoker						
		Total	Occasional and non-smokers	Current daily smokers and number of cigarettes smoked daily				Type of smoker unknown
				Total	1-22	23 and over	Number unknown	
		in thousands						
Age 15 and over:								
Total	**No.**	**17,492**	**9,891**	**6,525**	**4,196**	**2,178**	**152**	**1,076**
	%	**100.0**	**56.5**	**37.3**	**24.0**	**12.4**	**.9**	**6.1**
No disability days	**No.**	**15,397**	**8,705**	**5,729**	**3,707**	**1,882**	**140**	**963**
	%	**100.0**	**56.5**	**37.2**	**24.1**	**12.2**	**.9**	**6.3**
Some disability days	**No.**	**2,094**	**1,186**	**796**	**489**	**295**	**--**	**113**
	%	**100.0**	**56.6**	**38.0**	**23.3**	**14.1**	**--**	**5.4**
15-19:								
Total	No.	2,333	1,422	772	649	98	25	139
	%	100.0	60.9	33.1	27.8	4.2	1.1	6.0
No disability days	No.	2,109	1,299	696	585	88	23	116
	%	100.0	61.5	33.0	27.7	4.2	1.1	5.5
Some disability days	No.	224	125	76	64	10	--	23
	%	100.0	55.8	33.8	28.6	4.6	--	10.4
20-24:								
Total	No.	2,215	1,102	1,041	733	297	12	71
	%	100.0	49.8	47.0	33.1	13.4	.5	3.2
No disability days	No.	1,959	983	909	648	253	--	67
	%	100.0	50.2	46.4	33.1	12.9	--	3.4
Some disability days	No.	256	120	132	85	44	--	--
	%	100.0	46.8	51.7	33.2	17.3	--	--
25-44:								
Total	No.	6,472	3,544	2,648	1,525	1,082	41	281
	%	100.0	54.8	40.9	23.6	16.7	.6	4.3
No disability days	No.	5,723	3,122	2,344	1,345	961	38	257
	%	100.0	54.5	41.0	23.5	16.8	.7	4.5
Some disability days	No.	749	422	304	180	121	--	23
	%	100.0	56.3	40.6	24.0	16.2	--	3.1
45-64:								
Total	No.	4,453	2,483	1,647	988	618	40	323
	%	100.0	55.8	37.0	22.2	13.9	.9	7.3
No disability days	No.	3,870	2,170	1,412	865	509	38	288
	%	100.0	56.1	36.5	22.4	13.2	1.0	7.4
Some disability days	No.	583	313	235	123	109	--	35
	%	100.0	53.7	40.3	21.1	18.8	--	6.0
65 and over:								
Total	No.	2,019	1,340	417	301	82	35	262
	%	100.0	86.4	20.7	14.9	4.1	1.7	13.0
No disability days	No.	1,736	1,133	368	264	72	31	235
	%	100.0	65.3	21.2	15.2	4.2	1.8	13.5
Some disability days	No.	283	206	49	37	--	--	27
	%	100.0	73.0	17.5	12.9	--	--	9.6

Chapter III

Activity and Fitness

ACTIVITY AND FITNESS

Highlights

- About 36% of adult Canadians perform minimum recommended levels of physical activity. The rest are less active than they ideally should be. About 40% have recommended levels of physical fitness as determined by the Canadian Home Fitness Test.
- Managers and professionals are less likely to be sedentary when they are away from work than other white collar workers or blue collar workers.
- Physical activity and physical fitness are related to good health status. Physically active people, particularly among those 45 and over, are less likely to experience disability days or long-term activity limitation, to take drugs or to have recently consulted a doctor. They are more likely to have positive emotional well-being and lower blood pressure. People with recommended levels of physical fitness are less likely to be cigarette smokers.

Methods

Questions about physical activity were asked of persons 15 years of age and over on the self-administered questionnaire. The questions asked pertained to physical activity during leisure time and in doing household chores. These questions can be found on pages 212 and 213 of Appendix I.

The principal measure of physical activity used in this report is the Physical Activity Index which summarizes information about physical activity during discretionary time, in exercise, sport, physical recreation and household chores. The index is a summation of frequency of each activity reported in the previous two weeks multiplied by the average duration in minutes of each activity and by the average metabolic cost of that activity.[1]

The Physical Activity Index is unknown for 14% of respondents, who did not answer enough of the self-administered questionnaire to develop an index score. Furthermore, the proportion of unknowns increases with age. Therefore some caution should be exercised in interpreting the results reported here.

Physical fitness was measured using the Canadian Home Fitness Test (CHFT) developed by Fitness and Amateur Sport, Government of Canada. This is a sub-maximal test of cardio-respiratory efficiency which involves stepping up and down two stairs at a musical tempo appropriate for the person's age and sex. At the end of three minutes of stepping exercise, the pulse is taken and, depending on the pulse rate, the person goes on to a second three-minute period of stepping exercise. The pulse is taken again at the end of this second three-minute exercise period and is used to calculate oxygen consumption. Participants were those members of the Physical Measures households aged 15-64 years. They were first screened using the Physical Activity Readiness Questionnaire (PAR-Q) to determine suitability for undertaking CHFT.[2] Certain factors not covered by the PAR-Q, such as evidence of recent alcohol intake, were also used by the nurse conducting the test to screen participants.

From the pulse readings, respondents were classified in three categories: "Recommended Level" (pulse below specified rate after six minutes), "Minimum Acceptable" (pulse rate below three-minute criterion but above six-minute criterion) and "Unacceptable" (pulse rate above criterion at three minutes). The tables reporting fitness levels contain a "screened out" category along with the fitness categories.

An estimate of aerobic capacity — maximum rate of oxygen consumption in litres per minute ($\dot{V}O_2$ max) per kilogram of body weight — was made on the basis of immediate post-exercise pulse rate, using a regression equation involving age, sex and weight.[3]

The main source of observer error affecting the fitness assessment and the estimate of $\dot{V}O_2$ max is the determination of post-exercise pulse rate. The rate was obtained by counting the pulse over a 10-second interval (standard procedure in the CHFT) and, because the observation period was brief, the effect of any counting error will be relatively large. However, with a longer measurement period, even of 15 or 20 seconds, inaccuracies would be introduced because of rapid heart rate recovery.

In the tables reporting $\dot{V}O_2$ max at the end of this chapter, unknowns average 4% of those eligible for the test. While the fitness levels of those screened out is also unknown, it is assumed here that it is low. The proportion of unknowns was about the same in all age-sex groups. This is not true of those who were screened out.

Results

Basic Facts About Physical Activity

Physical Activity Index scores are reported in five categories, arbitrarily labelled to indicate relative amounts of activity (Text Table V).

TEXT TABLE V. Physical Activity Index Categories

	Scores	Percentage distribution
Total		**100**
Sedentary	0- 749	16
Moderately inactive	750-1,749	18
Moderate	1,750-2,999	16
Moderately active	3,000-5,499	18
Very active	5,500+	18
Unknown		14

To illustrate, if a person's only reported physical activity in the last two weeks was making beds each day, that person

would be classified as sedentary. If however, one's two-week physical activity program included daily bed making, a daily walk, skiing twice, skating twice, shovelling snow twice, two games of squash and some carpentry, one would receive a physical activity index score greater than 5,500 and be classified as very active.

Physical activity, as measured by the Physical Activity Index, is not distributed evenly according to age and sex. Table 25 shows that the proportion of persons who are "very active" declines regularly with age. While 46% of men and 32% of women aged 15-19 are so classified, this proportion declines steadily with age to the point where only 11% of men and 5% of women 65 and over are in the "very active" category.

Men are more extreme than women in their physical activity patterns. There are significantly more men than women in both the "sedentary" and "very active" categories while women are most likely to be "moderately inactive". This pattern is true for nearly all age groups. However, men aged 45-64 are significantly more likely to be sedentary than women of the same age (24% versus 14%), while significantly more men (27%) than women (16%) aged 20-24 are very active.

Levels of physical activity were also examined according to community size. However, as Table 26 shows, there is little variation in physical activity patterns by size of community.

Physical Activity and Occupation

Different occupational groups have different patterns of physical activity, as measured by the Physical Activity Index. Table 27 shows that managers and professionals are significantly less likely to be sedentary when they are away from work than other white collar or blue collar workers. Only 12% of managers and professionals are classified as sedentary while 15% of other white collar workers and 20% of blue collar workers are classified as sedentary according to the Physical Activity Index.

Physical Activity and Health Status

Physical health status is inferred from reports of selected behaviours related to ill health. These behaviours are disability days in the past two weeks, consultations with health professionals in the past two weeks, drug use in the past two days and activity limitation. Table 28 shows that those persons exhibiting none of these behaviours are significantly less likely to be "sedentary" and significantly more likely to be "very active". Only 14% of those with none of the selected behaviours related to ill health were sedentary while proportions of 18% to 29% with at least one of these behaviours were sedentary. These differences are statistically significant. Among those reporting no behaviours related to ill health, 21% were very active. The corresponding percentages for those with at least one ill health behaviour ranged from 10% to 16%. Again, these differences are statistically significant.

The association of these two variables bears an interesting relationship to age. In general, the level of physical activity is not related to ill health behaviour for persons under 45. However, persons 45 and over who are very active are significantly less likely to display behaviours related to ill health than to show none of these behaviours.

Emotional health is measured by the Affect Balance Scale which reports overall emotional health as positive, mixed or negative. (Further information on the derivation of this scale can be found in Chapter VII.) Table 29, which cross-classifies the Affect Balance Scale and the Physical Activity Index, shows that those exhibiting negative affect balance are significantly more likely to be sedentary (25%) than those with positive scores (13%). The difference is most pronounced for those 65 and over where 56% percent of those with a negative affect balance are sedentary and only 23% of those with positive affect balance are sedentary. Conversely, for the same age group, 12% of those with positive affect balance are very active and only 5% with negative balance are classified as very active. It would therefore appear that a positive state of emotional well-being is associated with a high level of physical activity, particularly for older people.

Physical Fitness

About one participant in three was screened out of the fitness test, 80% of these as a result of the PAR-Q. The proportion was lowest (17%) in the youngest age group, increasing with age to 58% in the 45-64 year age group. Proportionately more females (36%) than males (30%) were screened out overall, and this was the case within each age group.

Sixty-three per cent of respondents passed the screening; 40% had the recommended level of fitness; 22% were assigned the minimum acceptable level; and 1% were judged to have fitness below the acceptable level (Table 30).

The greatest proportion achieving the recommended level is 55%, in the youngest group of males. The lowest prevalence occurs among females aged 45-64; next lowest are males of the same age group.

The mean $\dot{V}O_2$ max was classified according to community size, economic family income quintiles and geographic region, with no significant differences found among categories in any case (data not shown).

In Table 31, fitness levels and oxygen uptake are compared with smoking habits. Overall, current smokers have the smallest proportion at the recommended level of fitness for both males (38%) and females (32%). For males, the greatest proportions at the recommended level occur in the "former occasional" and "never smoked" categories, 59% and 57%, respectively.

Fitness levels are compared to levels of physical activity as measured by the Physical Activity Index in Table 32. The proportion screened out of the Canadian Home Fitness Test decreases progressively with increasing level of physical activity, from 47% of those classified as sedentary to 24% of those classified as very active. Conversely, the proportion of the population having a recommended level of fitness increases progressively with increasing level of physical activity, from 27% of sedentary persons to 51% of those very active. The values of $\dot{V}O_2$ max are approximately similar from sedentary through moderately active, and slightly higher for the very

active group. These patterns hold for both males and females and for all age groups, as shown in Table 33.

Mean diastolic and mean systolic blood pressures, according to age and sex, for each of the five levels of physical activity as measured by the Physical Activity Index, are shown in Tables 34 and 35. Overall, the sedentary category has the highest systolic and diastolic pressures, and the very active group has the lowest. The three intermediate activity groups tend to have similar systolic and diastolic pressures, with values lying between those for the sedentary and very active. Within age/sex groups, these patterns are repeated but less distinctly. For females, diastolic pressure shows no consistent relationship to physical activity, but systolic pressure does tend to decrease as physical activity increases, for females aged 20 years and over. The differences are most marked in the 25-44 year age group. Males show a decrease of both systolic and diastolic readings with increasing activity for ages 20 years and over. The overall differences for males are 5.6 mmHg of diastolic pressure and 7.2 mmHg of systolic pressure between the sedentary and very active groups. It is worth noting that body weight, not included in this analysis, is an important intervening variable in the relationship between blood pressure and physical activity.

Discussion

The major measure of physical activity used in this report, the Physical Activity Index, is a good summary measure of physical activity, but is far from perfect. It accounts for three important dimensions of physical activity — frequency, duration and average intensity of different activities. However, all three components are weighted equally. While there is no compelling evidence to apply differential weights, neither is there strong evidence to weight them equally. A more serious limitation, however, is that the index does not require any particular mix of frequency, duration and intensity.

This mix is implied in the Fitness Canada "Prescription for Physical Activity"[4] which can be considered an ideal minimum level of physical activity for everyone:

Prescription for Physical Activity

1. Move: walk, climb, ride a bike.
   Dosage: every day as often as possible.

2. Stretch and deep breathe: take a fitness break and relax.
   Dosage: daily as needed when tense.

3. Push, bend, twist, swing: use your body as it was designed to be used.
   Dosage: at least three times each week.

4. Run, swim, cycle, ski: 15 to 20 minutes of continuous aerobic activity, vigorous enough to increase your heart rate, and make you breathe deeply.
   Dosage: at least three times each week.

5. Enjoy life: spend time at sports, hobbies or outdoor activities.
   Dosage: two hour-period at least once a week.

This prescription translates into a minimum score of 3,000 on the Physical Activity Index.[5] In other words, only moderately active and very active people, 36% of all adults, meet the ideal minimum level of physical activity required for maintenance of good physical fitness.

While men and women of all ages should maintain high levels of physical activity, the reality of the situation is that the proportion of people who are "very active" declines rapidly with increasing age, and men tend to be more extreme than women in their levels of physical activity. Men are more likely to be either "sedentary" or "very active", while women are more likely to be "moderately inactive" or "moderate" in their level of physical activity. These sex differences in physical activity patterns have an impact on the relationship of physical activity to other variables discussed in this report. Further analysis is needed to control for these sex differences.

It is interesting to note that managers and professionals are the least likely to be sedentary while away from the job while blue collar workers are the most likely to be sedentary during their discretionary time. Perhaps each group is compensating for the amount of physical activity they experience on the job. The same compensatory hypothesis cannot be applied to other white collar workers, however, who are likely to be sedentary both on and off the job.

People who are sedentary are most likely to display behaviours related to ill health and to score negatively on a scale of emotional well-being. Conversely, those who are very active are most likely to have none of the behaviours associated with ill-health and to display positive emotional well-being. These patterns are particularly true for older people. These findings indicate that there may be both short and long-term improvements in health status to be realized through high levels of physical activity and that health care costs in the forms of drug use, visits to health professionals and time lost due to disability, may be reduced through increased levels of physical activity. In addition, if we assume that older people who are very active have maintained a pattern of regular physical activity throughout their lives, the data suggest that a lifetime of being very active physically may pay dividends in the form of fewer consequences of ill health in the later years of life.

The infrequency with which fitness is assessed as below acceptable indicates the effectiveness of screening prior to exercise. The PAR-Q was designed to screen out persons who should not undertake strenuous activity without a thorough medical examination. Presumably, a large proportion of the respondents were screened out because of factors associated with a low fitness level. In addition, it may be presumed that many of those who refused to participate in the exercise test were persons who knew that they could not perform well, or whose lifestyle included avoidance of exertion. Therefore, it seems that the estimates of prevalence of recommended level of fitness may err on the high side, whereas those for the prevalence of "Below Acceptable" (and perhaps also for "Minimum Acceptable") are underestimates. Similarly, the estimates of $\dot{V}O_2$ max are probably overestimates, since those with low oxygen uptake capacity were preferentially excluded from the exercise test.

It is interesting to note that nearly equal proportions of people aged 15-64 have recommended levels of fitness as measured by the Canadian Home Fitness Test (40%) and recommended levels of physical activity (moderately active and very active) as measured by the Physical Activity Index (39%). However, only 48% of those with recommended levels of physical activity also have the recommended level of physical fitness. While physical activity is clearly related to physical fitness, there are other relevant factors including diet and heredity which were not assessed in the survey.

While data presented here can not be definitive as to cause and effect, they do suggest that physical activity and physical fitness are related to a broad range of health status indicators. Similar observations have been made by other investigators.[6]

These findings also suggest that physical activity and physical fitness, because they may be related to other good health behaviours and various dimensions of good health status, should be key elements in comprehensive primary prevention and health promotion strategies.

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[1] Metabolic cost is measured in terms of multiples of the resting metabolic rate — METS. Thus any activity with a value of six METS requires six times as much energy expenditure as lying down. The METS values assigned to each activity are as follows:

METS	Activities
2	walking.
3	bowling, cleaning floors, making beds, ironing.
4	baseball, golf, mowing grass, handyman work, other household chores not elsewhere specified.
5	curling, raking leaves, gardening, carpentry.
6	bicycling, vigorous dancing, skating, other sport or exercise not elsewhere specified.
9	calisthenics, skiing.
10	jogging, racquet sports, team sports, swimming.
12	shovelling snow.

These values have been derived from actual measurement of the metabolic costs of these activities by many investigators. For summaries of this work, see:

Astrand, P.O. and Rodahl, K. *Textbook of Work Physiology.* Toronto: McGraw-Hill, 1970.

Skinner, J.S. Physiological Implications of Physical Activity in *Employee Physical Fitness in Canada.* Ottawa: Health and Welfare Canada, 1975.

Passmore, R. and Durnin, J.V.G.A. Human Energy Expenditure, *Physiological Reviews,* 1955, Vol. 35, pp. 801-840.

[2] *Par-Q Validation Report.* The Evaluation of a Self-administered Pre-exercise Screening Questionnaire for Adults. Victoria: British Columbia Ministry of Health, May 1978.

[3] Jetté, M. et al. The Canadian Home Fitness Test as a Predictor of Aerobic Capacity, *Canadian Medical Association Journal,* 1976, Vol. 114, pp. 680-682.

[4] "Prescription for Physical Activity" in *The Fit-Kit.* Ottawa: Fitness and Amateur Sport, 1976.

[5] This minimum score of 3,000 was calculated by assigning minimum frequency, duration and intensity scores to each of the five elements of the "Prescription for Physical Activity" and calculating the physical activity index for this minimum prescribed level of physical activity. The calculations are as follows:

	Frequency (2-week period)		Duration (in minutes)		Intensity (in METS)		Physical activity score
1. Move	14	X	15	X	3	=	630
2. Stretch and deep breathe	14	X	3	X	2	=	84
3. Push, bend, twist, swing	6	X	15	X	9	=	810
4. Run, swim, cycle, ski	6	X	15	X	9	=	810
5. Enjoy life	2	X	120	X	3	=	720
Physical activity index value							3,054

[6] For example, see: V.P. Pravosudov, Effects of Physical Exercise on Health and Economic Efficiency in F. Landry and W.A.R. Orban (eds.), *Physical Activity and Human Well-being,* Florida: Symposia Specialists, 1978, as well as F. Heinzelmann, Psycho-Social Implications of Physical Activity in *Employee Physical Fitness in Canada,* Ottawa: Health and Welfare Canada, 1975.

TABLE 25. Population 15 Years and Over by Level of Physical Activity, by Age and Sex, Canada, 1978-79

		Level of physical activity						
		Total	Sedentary	Moderately inactive	Moderate	Moderately active	Very active	Unknown
		in thousands						
Age 15 and over:								
Both sexes	No.	17,492	2,822	3,133	2,812	3,178	3,172	2,376
	%	100.0	16.1	17.9	16.1	18.2	18.1	13.6
Male	No.	8,584	1,624	1,220	1,229	1,554	1,773	1,184
	%	100.0	18.9	14.2	14.3	18.1	20.7	13.8
Female	No.	8,907	1,198	1,913	1,583	1,624	1,398	1,192
	%	100.0	13.5	21.5	17.8	18.2	15.7	13.4
15-19								
Male	No.	1,187	95	95	118	197	546	136
	%	100.0	8.0	8.0	10.0	16.6	46.0	11.5
Female	No.	1,146	88	181	176	249	361	90
	%	100.0	7.7	15.8	15.3	21.7	31.6	7.9
20-24								
Male	No.	1,106	177	153	170	202	301	101
	%	100.0	16.0	13.9	15.4	18.3	27.3	9.2
Female	No.	1,108	158	269	208	207	174	93
	%	100.0	14.3	24.2	18.7	18.6	15.7	8.4
25-44								
Male	No.	3,230	581	522	521	666	586	353
	%	100.0	18.0	16.2	16.1	20.6	18.1	10.9
Female	No.	3,242	307	740	694	685	500	317
	%	100.0	9.5	22.8	21.4	21.1	15.4	9.8
45-64								
Male	No.	2,174	513	324	318	386	245	388
	%	100.0	23.6	14.9	14.6	17.8	11.3	17.8
Female	No.	2,279	319	479	378	373	304	425
	%	100.0	14.0	21.0	16.6	16.4	13.4	18.7
65 and over								
Male	No.	887	258	125	101	103	94	206
	%	100.0	29.1	14.1	11.4	11.6	10.6	23.2
Female	No.	1,132	325	244	128	111	59	267
	%	100.0	28.7	21.5	11.3	9.8	5.2	23.6

TABLE 26. Population 15 Years and Over by Level of Physical Activity, by Age and Community Size, Canada, 1978-79

Community size		Level of activity						
		Total	Sedentary	Moderately inactive	Moderate	Moderately active	Very active	Unknown
		in thousands						
Age 15 and over:								
Total	**No.**	**17,492**	**2,822**	**3,133**	**2,812**	**3,178**	**3,172**	**2,376**
	%	**100.0**	**16.1**	**17.9**	**16.1**	**18.2**	**18.1**	**13.6**
Less than 100,000	**No.**	**6,574**	**1,089**	**1,191**	**1,091**	**1,168**	**1,165**	**869**
	%	**100.0**	**16.6**	**18.1**	**16.6**	**17.8**	**17.7**	**13.2**
100,000-999,999	**No.**	**5,141**	**736**	**959**	**884**	**948**	**924**	**690**
	%	**100.0**	**14.3**	**18.7**	**17.2**	**18.4**	**18.0**	**13.4**
1,000,000 and over	**No.**	**5,777**	**997**	**983**	**836**	**1,062**	**1,083**	**817**
	%	**100.0**	**17.3**	**17.0**	**14.5**	**18.4**	**18.7**	**14.1**
15-19:								
Total	No.	2,333	184	277	294	445	907	226
	%	100.0	7.9	11.9	12.6	19.1	38.9	9.7
Less than 100,000	No.	923	88	112	129	150	353	90
	%	100.0	9.6	12.1	14.0	16.2	38.3	9.8
100,000-999,999	No.	732	54	87	91	141	284	75
	%	100.0	7.4	11.8	12.5	19.2	38.9	10.2
1,000,000 and over	No.	678	41	79	73	155	269	61
	%	100.0	6.0	11.6	10.8	22.9	39.7	9.1
20-24:								
Total	No.	2,215	336	422	378	409	476	194
	%	100.0	15.2	19.1	17.1	18.5	21.5	8.8
Less than 100,000	No.	741	99	153	133	163	135	58
	%	100.0	13.3	20.6	17.9	22.0	18.2	7.8
100,000-999,999	No.	722	105	131	134	138	152	60
	%	100.0	14.6	18.2	18.6	19.1	21.1	8.4
1,000,000 and over	No.	752	132	138	110	108	188	75
	%	100.0	17.5	18.3	14.7	14.4	25.0	10.0
25-44:								
Total	No.	6,472	888	1,262	1,215	1,351	1,086	670
	%	100.0	13.7	19.5	18.8	20.9	16.8	10.4
Less than 100,000	No.	2,337	306	437	469	489	415	220
	%	100.0	13.1	18.7	20.1	20.9	17.8	9.4
100,000-999,999	No.	1,939	249	400	372	413	319	187
	%	100.0	12.8	20.6	19.2	21.3	16.4	9.6
1,000,000 and over	No.	2,196	333	425	375	449	352	263
	%	100.0	15.2	19.4	17.1	20.4	16.0	12.0
45-64:								
Total	No.	4,453	832	803	696	759	550	813
	%	100.0	18.7	18.0	15.6	17.0	12.3	18.3
Less than 100,000	No.	1,666	324	325	261	274	197	286
	%	100.0	19.4	19.5	15.7	16.4	11.8	17.2
100,000-999,999	No.	1,250	200	245	223	198	129	254
	%	100.0	16.0	19.6	17.9	15.8	10.4	20.4
1,000,000 and over	No.	1,537	309	233	212	288	223	272
	%	100.0	20.1	15.2	13.8	18.7	14.5	17.7
65 and over:								
Total	No.	2,019	583	369	229	213	153	473
	%	100.0	28.9	18.3	11.3	10.6	7.6	23.4
Less than 100,000	No.	907	272	165	99	93	64	215
	%	100.0	30.0	18.2	10.9	10.2	7.1	23.7
100,000-999,999	No.	498	128	96	64	58	39	114
	%	100.0	25.7	19.2	12.8	11.7	7.8	22.8
1,000,000 and over	No.	614	183	108	66	62	50	144
	%	100.0	29.8	17.6	10.7	10.1	8.1	23.5

TABLE 27. Population 15 Years and Over by Level of Physical Activity, by Age and Occupation, Canada, 1978-79

Age and occupation		Level of physical activity						
		Total	Sedentary	Moderately inactive	Moderate	Moderately active	Very active	Unknown
		in thousands						
Age 15 and over:								
Total	**No.**	**17,492**	**2,822**	**3,133**	**2,812**	**3,178**	**3,172**	**2,376**
	%	**100.0**	**16.1**	**17.9**	**16.1**	**18.2**	**18.1**	**13.6**
Total employed	No.	9,838	1,553	1,771	1,699	1,923	1,724	1,169
	%	100.0	15.8	18.0	17.3	19.5	17.5	11.9
Managerial and professional	No.	2,323	271	437	445	562	444	164
	%	100.0	11.7	18.8	19.1	24.2	19.1	7.1
Other white collar	No.	3,968	589	786	720	745	673	456
	%	100.0	14.8	19.8	18.1	18.8	17.0	11.5
Blue collar	No.	3,242	651	500	477	562	547	505
	%	100.0	20.1	15.4	14.7	17.3	16.9	15.6
Occupation unknown	No.	304	42	47	57	54	59	44
	%	100.0	13.8	15.6	18.8	17.8	19.4	14.8
Unemployed	No.	1,169	186	199	169	205	256	155
	%	100.0	15.9	17.0	14.4	17.5	21.9	13.3
Not in labour force	No.	6,316	1,066	1,135	923	1,017	1,146	1,029
	%	100.0	16.9	18.0	14.6	16.1	18.1	16.3
Labour force status unknown	No.	168	17	28	21	34	46	22
	%	100.0	10.2	16.7	12.4	20.0	27.5	13.1
15-19:								
Total	**No.**	**2,333**	**184**	**277**	**294**	**445**	**907**	**226**
	%	**100.0**	**7.9**	**11.9**	**12.6**	**19.1**	**38.9**	**9.7**
Total employed	No.	860	82	102	127	156	303	90
	%	100.0	9.5	11.8	14.8	18.1	35.3	10.5
Managerial and professional	No.	31	..	..	..	..	..	..
	%	100.0	..	..	..	..	..	..
Other white collar	No.	484	37	71	79	90	166	40
	%	100.0	7.7	14.7	16.3	18.6	34.4	8.3
Blue collar	No.	304	35	26	36	58	102	47
	%	100.0	11.4	8.4	12.0	19.0	33.7	15.4
Occupation unknown	No.	42	..	..	9	..	16	..
	%	100.0	..	..	22.3	..	37.8	..
Unemployed	No.	326	33	53	45	50	110	35
	%	100.0	10.2	16.1	13.9	15.3	33.8	10.7
Not in labour force	No.	1,061	66	113	110	221	459	94
	%	100.0	6.2	10.7	10.3	20.8	43.2	8.8
Labour force status unknown	No.	85	..	9	12	19	35	..
	%	100.0	..	10.6	13.6	22.8	41.0	..
20-24:								
Total	**No.**	**2,215**	**336**	**422**	**378**	**409**	**476**	**194**
	%	**100.0**	**15.2**	**19.1**	**17.1**	**18.5**	**21.5**	**8.8**
Total employed	No.	1,533	238	283	273	294	315	128
	%	100.0	15.5	18.5	17.8	19.2	20.6	8.4
Managerial and professional	No.	272	25	61	56	52	67	..
	%	100.0	9.3	22.3	20.5	19.3	24.7	..
Other white collar	No.	695	106	139	123	138	127	61
	%	100.0	15.3	20.0	17.7	19.9	18.3	8.8
Blue collar	No.	515	102	73	83	95	106	54
	%	100.0	19.9	14.2	16.2	18.5	20.6	10.6
Occupation unknown	No.	51	..	..	..	..	..	..
	%	100.0	..	..	..	..	..	..
Unemployed	No.	232	35	42	30	45	58	23
	%	100.0	15.1	18.0	12.7	19.2	25.1	9.8
Not in labour force	No.	437	59	94	73	69	98	43
	%	100.0	13.5	21.5	16.8	15.9	22.4	9.8
Labour force status unknown	No.	13	..	..	..	..	..	..
	%	100.0	..	..	..	..	..	..

TABLE 27. Population 15 Years and Over by Level of Physical Activity, by Age and Occupation, Canada, 1978-79 - Concluded

Age and occupation		Level of physical activity						
		Total	Sedentary	Moderately inactive	Moderate	Moderately active	Very active	Unknown
		in thousands						
25-44:								
Total	**No.**	**6,472**	**888**	**1,262**	**1,215**	**1,351**	**1,086**	**670**
	%	**100.0**	**13.7**	**19.5**	**18.8**	**20.9**	**16.8**	**10.4**
Total employed	No.	4,657	679	884	864	996	782	451
	%	100.0	14.6	19.0	18.6	21.4	16.8	9.7
Managerial and professional	No.	1,395	161	256	263	353	274	87
	%	100.0	11.6	18.4	18.8	25.3	19.7	6.3
Other white collar	No.	1,691	217	358	355	348	267	145
	%	100.0	12.8	21.2	21.0	20.6	15.8	8.6
Blue collar	No.	1,449	285	247	226	263	227	201
	%	100.0	19.7	17.1	15.6	18.2	15.7	13.9
Occupation unknown	No.	121	15	22	20	31	14	18
	%	100.0	12.4	18.4	16.4	26.0	11.6	15.1
Unemployed	No.	404	67	72	68	71	66	61
	%	100.0	16.7	17.8	16.8	17.5	16.3	15.0
Not in labour force	No.	1,399	140	304	279	282	237	157
	%	100.0	10.0	21.7	19.9	20.1	16.9	11.3
Labour force status unknown	No.	13	..	..	..	..	..	..
	%	100.0	..	..	..	..	..	..
45-64:								
Total	**No.**	**4,453**	**832**	**803**	**696**	**759**	**550**	**813**
	%	**100.0**	**18.7**	**18.0**	**15.6**	**17.0**	**12.3**	**18.3**
Total employed	No.	2,646	528	477	417	453	310	462
	%	100.0	20.0	18.0	15.8	17.1	11.7	17.4
Managerial and professional	No.	591	81	109	119	146	79	56
	%	100.0	13.7	18.5	20.2	24.7	13.4	9.5
Other white collar	No.	1,040	213	208	157	159	110	194
	%	100.0	20.5	20.0	15.1	15.2	10.6	18.6
Blue collar	No.	927	221	146	124	138	106	192
	%	100.0	23.9	15.7	13.4	14.9	11.4	20.7
Occupation unknown	No.	88	..	14	17	..	..	20
	%	100.0	..	15.4	19.1	..	..	22.9
Unemployed	No.	192	47	31	26	37	19	33
	%	100.0	24.2	15.9	13.4	19.3	9.7	17.4
Not in labour force	No.	1,588	255	287	251	261	221	314
	%	100.0	16.0	18.1	15.8	16.4	13.9	19.8
Labour force status unknown	No.	27	..	..	..	..	..	..
	%	100.0	..	..	..	..	..	..
65 and over:								
Total	**No.**	**2,019**	**583**	**369**	**229**	**213**	**153**	**473**
	%	**100.0**	**28.9**	**18.3**	**11.3**	**10.6**	**7.6**	**23.4**
Total employed	No.	143	26	25	17	24	..	38
	%	100.0	18.1	17.5	11.8	16.9	..	26.5
Managerial and professional	No.	34	..	..	..	..	..	..
	%	100.0	..	..	..	..	..	..
Other white collar	No.	59	15	..	..	..	..	15
	%	100.0	25.8	..	..	..	..	25.9
Blue collar	No.	47	..	..	..	..	..	12
	%	100.0	..	..	..	..	..	24.5
Occupation unknown	No.	..	..	..	-	..	-	..
	%	..	..	..	-	..	-	..
Unemployed	No.	15	..	..	-	..	..	..
	%	100.0	..	..	-	..	..	..
Not in labour force	No.	1,832	547	337	211	184	132	422
	%	100.0	29.9	18.4	11.5	10.0	7.2	23.0
Labour force status unknown	No.	30	..	..	..	..	..	..
	%	100.0	..	..	..	..	..	..

TABLE 28. Population 15 Years and Over by Level of Physical Activity, by Age and Selected Health Behaviours, Canada, 1978-79

Selected behaviours		Level of physical activity						
		Total	Sedentary	Moderately inactive	Moderate	Moderately active	Very active	Unknown
		in thousands						
Age 15 and over:								
Total population(1)	**No.**	**17,492**	**2,822**	**3,133**	**2,812**	**3,178**	**3,172**	**2,376**
	%	**100.0**	**16.1**	**17.9**	**16.1**	**18.2**	**18.1**	**13.6**
Disability days	**No.**	**2,094**	**450**	**372**	**337**	**326**	**307**	**302**
	%	**100.0**	**21.5**	**17.8**	**16.1**	**15.6**	**14.7**	**14.4**
Recent consultations with health professionals	**No.**	**3,997**	**706**	**757**	**624**	**713**	**643**	**554**
	%	**100.0**	**17.7**	**18.9**	**15.6**	**17.8**	**16.1**	**13.9**
Drug use in the last two days	**No.**	**8,743**	**1,534**	**1,666**	**1,431**	**1,488**	**1,391**	**1,233**
	%	**100.0**	**17.5**	**19.0**	**16.4**	**17.0**	**15.9**	**14.1**
Activity limitation	**No.**	**2,447**	**698**	**463**	**310**	**336**	**254**	**387**
	%	**100.0**	**28.5**	**18.9**	**12.7**	**13.7**	**10.4**	**15.8**
None of the above	**No.**	**6,824**	**963**	**1,142**	**1,102**	**1,318**	**1,396**	**902**
	%	**100.0**	**14.1**	**16.7**	**16.2**	**19.3**	**20.5**	**13.2**
15-19:								
Total population(1)	No.	2,333	184	277	294	445	907	226
	%	100.0	7.9	11.9	12.6	19.1	38.9	9.7
Disability days	No.	224	23	25	39	29	78	30
	%	100.0	10.1	11.1	17.5	13.1	34.9	13.3
Recent consultations with health professionals	No.	432	35	51	60	69	169	48
	%	100.0	8.1	11.8	13.8	16.1	39.2	11.0
Drug use in the last two days	No.	827	67	117	99	154	312	79
	%	100.0	8.1	14.1	12.0	18.6	37.7	9.5
Activity limitation	No.	106	12	16	17	17	32	..
	%	100.0	11.0	14.9	15.8	16.5	30.2	..
None of the above	No.	1,215	96	132	153	245	471	118
	%	100.0	7.9	10.8	12.6	20.2	38.8	9.7
20-24:								
Total population(1)	No.	2,215	336	422	378	409	476	194
	%	100.0	15.2	19.1	17.1	18.5	21.5	8.8
Disability days	No.	256	36	44	52	46	45	33
	%	100.0	13.9	17.1	20.2	18.0	17.8	12.9
Recent consultations with health professionals	No.	513	79	102	86	97	103	46
	%	100.0	15.4	19.9	16.8	18.9	20.1	8.9
Drug use in the last two days	No.	905	149	184	187	148	174	82
	%	100.0	16.5	20.4	20.7	16.3	19.2	6.9
Activity limitation	No.	108	21	26	21	22	9	..
	%	100.0	19.8	23.7	19.6	20.4	8.7	..
None of the above	No.	1,019	144	184	145	207	239	100
	%	100.0	14.1	18.1	14.3	20.3	23.4	9.8

See footnote(s) at end of table.

TABLE 28. Population 15 Years and Over by Level of Physical Activity, by Age and Selected Health Behaviours, Canada, 1978-79 – Concluded

Selected behaviours		Level of physical activity						
		Total	Sedentary	Moderately inactive	Moderate	Moderately active	Very active	Unknown
		in thousands						
25-44:								
Total population(1)	No.	6,472	888	1,262	1,215	1,351	1,086	670
	%	100.0	13.7	19.5	18.8	20.9	16.8	10.4
Disability days	No.	749	123	133	130	156	120	87
	%	100.0	16.5	17.8	17.4	20.9	16.0	11.6
Recent consultations with health professionals	No.	1,426	192	301	249	321	214	149
	%	100.0	13.5	21.1	17.5	22.5	15.0	10.4
Drug use in the last two days	No.	2,915	366	610	549	602	502	285
	%	100.0	12.6	20.9	18.8	20.7	17.2	9.8
Activity limitation	No.	575	130	113	92	99	89	53
	%	100.0	22.5	19.6	16.0	17.2	15.4	9.2
None of the above	No.	2,801	406	508	540	578	452	316
	%	100.0	14.5	18.1	19.3	20.6	16.1	11.3
45-64:								
Total population(1)	No.	4,453	832	803	696	759	550	813
	%	100.0	18.7	18.0	15.6	17.0	12.3	18.3
Disability days	No.	583	148	120	86	78	52	98
	%	100.0	25.4	20.5	14.8	13.5	8.9	16.9
Recent consultations with health professionals	No.	1,071	205	215	161	173	125	192
	%	100.0	19.1	20.1	15.1	16.2	11.6	17.9
Drug use in the last two days	No.	2,631	482	472	442	427	318	490
	%	100.0	18.3	18.0	16.8	16.2	12.1	18.6
Activity limitation	No.	932	248	176	112	139	79	178
	%	100.0	26.6	18.9	12.0	14.9	8.5	19.1
None of the above	No.	1,393	255	253	210	248	182	245
	%	100.0	18.3	18.2	15.1	17.8	13.1	17.6
65 and over:								
Total population(1)	No.	2,019	583	369	229	213	153	473
	%	100.0	28.9	18.3	11.3	10.6	7.6	23.4
Disability days	No.	283	120	51	29	16	12	54
	%	100.0	42.5	18.0	10.4	5.6	4.4	19.2
Recent consultations with health professionals	No.	555	195	88	68	53	32	120
	%	100.0	35.1	15.9	12.2	9.5	5.7	21.6
Drug use in the last two days	No.	1,465	469	282	154	157	86	317
	%	100.0	32.0	19.3	10.5	10.7	5.9	21.6
Activity limitation	No.	726	287	133	68	58	45	135
	%	100.0	39.5	18.3	9.4	8.0	6.2	18.6
None of the above	No.	396	62	65	54	41	52	123
	%	100.0	15.5	16.5	13.5	10.3	13.2	31.0

(1) Because multiple responses were possible, columns do not add to totals.

TABLE 29. Population 15 Years and Over by Level of Physical Activity, by Age and "Affect Balance Scale" Scores, Canada, 1978-79

Affect Balance Scale scores		Level of physical activity						
		Total	Sedentary	Moderately inactive	Moderate	Moderately active	Very active	Unknown
		in thousands						
Age 15 and over:								
Total	**No.**	**17,492**	**2,822**	**3,133**	**2,812**	**3,178**	**3,172**	**2,376**
	%	**100.0**	**16.1**	**17.9**	**16.1**	**18.2**	**18.1**	**13.6**
Positive	**No.**	**7,956**	**1,043**	**1,434**	**1,368**	**1,619**	**1,658**	**834**
	%	**100.0**	**13.1**	**18.0**	**17.2**	**20.3**	**20.8**	**10.5**
Mixed	**No.**	**7,081**	**1,240**	**1,321**	**1,167**	**1,257**	**1,271**	**825**
	%	**100.0**	**17.5**	**18.7**	**16.5**	**17.8**	**17.9**	**11.6**
Negative	**No.**	**770**	**190**	**153**	**108**	**106**	**129**	**84**
	%	**100.0**	**24.7**	**19.8**	**14.0**	**13.7**	**16.8**	**11.0**
Unknown	**No.**	**1,686**	**350**	**226**	**168**	**197**	**114**	**632**
	%	**100.0**	**20.7**	**13.4**	**10.0**	**11.7**	**6.7**	**37.5**
15-19:								
Total	No.	2,333	184	277	294	445	907	226
	%	100.0	7.9	11.9	12.6	19.1	38.9	9.7
Positive	No.	951	65	97	109	191	408	81
	%	100.0	6.8	10.2	11.4	20.1	42.9	8.6
Mixed	No.	1,156	99	150	147	213	451	96
	%	100.0	8.6	13.0	12.7	18.4	39.1	8.3
Negative	No.	123	13	19	30	23	30	..
	%	100.0	10.9	15.6	24.1	18.8	24.5	..
Unknown	No.	103	..	..	..	19	17	41
	%	100.0	..	..	..	18.1	16.9	40.1
20-24:								
Total	No.	2,215	336	422	378	409	476	194
	%	100.0	15.2	19.1	17.1	18.5	21.5	8.8
Positive	No.	1,028	119	188	184	196	259	82
	%	100.0	11.6	18.3	17.9	19.1	25.2	8.0
Mixed	No.	1,006	186	192	172	185	181	89
	%	100.0	18.5	19.1	17.1	18.4	18.0	8.9
Negative	No.	92	..	26	15	12	18	..
	%	100.0	..	27.9	15.8	13.0	19.8	..
Unknown	No.	90	14	..	..	..	..	18
	%	100.0	15.6	..	..	..	..	19.9
25-44:								
Total	No.	6,472	888	1,262	1,215	1,351	1,086	670
	%	100.0	13.7	19.5	18.8	20.9	16.8	10.4
Positive	No.	3,087	320	602	593	744	593	235
	%	100.0	10.4	19.5	19.2	24.1	19.2	7.6
Mixed	No.	2,753	445	566	543	515	411	271
	%	100.0	16.2	20.6	19.7	18.7	14.9	9.9
Negative	No.	267	56	41	36	36	52	46
	%	100.0	20.9	15.5	13.5	13.5	19.4	17.2
Unknown	No.	365	66	52	43	56	29	118
	%	100.0	18.2	14.3	11.8	15.3	8.0	32.4
45-64:								
Total	No.	4,453	832	803	696	759	550	813
	%	100.0	18.7	18.0	15.6	17.0	12.3	18.3
Positive	No.	2,076	356	384	359	380	303	294
	%	100.0	17.1	18.5	17.3	18.3	14.6	14.1
Mixed	No.	1,562	317	265	236	282	190	252
	%	100.0	20.3	18.3	15.1	18.1	12.2	16.1
Negative	No.	180	44	47	21	24	24	20
	%	100.0	24.3	26.3	11.9	13.2	13.2	11.1
Unknown	No.	634	116	86	79	72	33	248
	%	100.0	18.3	13.6	12.5	11.4	5.2	39.0
65 and over:								
Total	No.	2,019	583	369	229	213	153	473
	%	100.0	28.9	18.3	11.3	10.6	7.6	23.4
Positive	No.	813	183	163	123	107	95	143
	%	100.0	22.5	20.0	15.1	13.2	11.7	17.6
Mixed	No.	604	192	127	69	62	37	117
	%	100.0	31.8	21.0	11.4	10.2	6.2	19.3
Negative	No.	108	61	19	6	11	5	6
	%	100.0	56.1	17.7	5.6	10.1	4.9	5.7
Unknown	No.	493	147	60	31	34	15	207
	%	100.0	29.8	12.1	6.2	6.8	3.1	42.0

TABLE 30. Population 15-64 Years by Fitness Level and Mean Estimated $\dot{V}O_2$ Max., by Sex and Age, Canada, 1978-79

		Fitness level						
		Total	Mean $\dot{V}O_2$ max.	Recommended level	Minimum acceptable	Below acceptable	Screened out	Unknown
		in thousands						
Both sexes:								
All ages	**No.**	**15,472**	**39.45**	**6,157**	**3,401**	**195**	**5,077**	**643**
	%	**100.0**		**39.8**	**22.0**	**1.3**	**32.8**	**4.2**
15-19	**No.**	**2,333**	**46.17**	**1,122**	**701**	**19**	**393**	**98**
	%	**100.0**		**48.1**	**30.0**	**.8**	**16.8**	**4.2**
20-24	**No.**	**2,215**	**43.69**	**908**	**681**	**..**	**489**	**86**
	%	**100.0**		**41.0**	**30.8**	**..**	**22.1**	**3.9**
25-44	**No.**	**6,472**	**38.94**	**2,883**	**1,616**	**96**	**1,603**	**274**
	%	**100.0**		**44.6**	**25.0**	**1.5**	**24.8**	**4.2**
45-64	**No.**	**4,453**	**29.36**	**1,244**	**403**	**..**	**2,591**	**186**
	%	**100.0**		**27.9**	**9.0**	**..**	**58.2**	**4.2**
Male								
All ages	No.	7,697	44.09	3,476	1,543	92	2,288	297
	%	100.0		45.2	20.1	1.2	29.7	3.9
15-19	No.	1,187	51.84	649	322	..	167	..
	%	100.0		54.7	27.1	..	14.0	..
20-24	No.	1,106	49.09	501	395	..	157	..
	%	100.0		45.3	35.7	..	14.2	..
25-44	No.	3,230	43.11	1,666	641	..	729	126
	%	100.0		51.6	19.9	..	22.6	3.9
45-64	No.	2,174	32.75	660	185	..	1,236	80
	%	100.0		30.4	8.5	..	56.8	3.7
Female								
All ages	No.	7,775	34.33	2,682	1,857	102	2,788	346
	%	100.0		34.5	23.9	1.3	35.9	4.4
15-19	No.	1,146	39.80	473	379	18	226	50
	%	100.0		41.3	33.0	1.6	19.8	4.3
20-24	No.	1,108	36.96	407	287	..	332	..
	%	100.0		36.7	25.9	..	30.0	..
25-44	No.	3,242	34.48	1,218	974	..	874	148
	%	100.0		37.6	30.0	..	27.0	4.6
45-64	No.	2,279	25.80	584	218	..	1,356	106
	%	100.0		25.6	9.5	..	59.5	4.7

TABLE 31. Population 15-64 Years by Fitness Level and Mean Estimated $\dot{V}O_2$ Max., by Sex and Type of Cigarette Smoker, Canada, 1978-79

Type of smoker		Fitness level						
		Total	Mean $\dot{V}O_2$ max.	Recommended level	Minimum acceptable	Below acceptable	Screened out	Unknown
		in thousands						
Both sexes:								
Total	No.	15,060	39.49	6,054	3,322	188	4,897	599
	%	100.0		40.2	22.1	1.2	32.5	4.0
Current	No.	5,904	39.75	2,083	1,415	138	1,939	328
	%	100.0		35.3	24.0	2.3	32.9	5.6
Occasional	No.	454	41.21	218	91	..	124	..
	%	100.0		48.0	20.1	..	27.3	..
Former regular	No.	2,495	38.01	1,062	531	..	851	..
	%	100.0		42.5	21.3	..	34.1	..
Former occasional	No.	1,247	39.44	588	278	..	348	..
	%	100.0		47.2	22.3	..	27.9	..
Never smoked	No.	4,338	39.71	1,924	940	32	1,296	145
	%	100.0		44.4	21.7	.7	29.9	3.4
Unknown	No.	622	40.55	180	67	..	339	..
	%	100.0		28.9	10.7	..	54.5	..
Male:								
Total	No.	7,498	44.13	3,405	1,511	88	2,214	278
	%	100.0		45.4	20.2	1.2	29.5	3.7
Current	No.	3,172	44.12	1,211	663	75	1,037	185
	%	100.0		38.2	20.9	2.4	32.7	5.8
Occasional	No.	190	49.48	..	..	..	..	..
	%	100.0		..	..	..	..	..
Former regular	No.	1,584	40.87	695	296	..	560	..
	%	100.0		43.9	18.7	..	35.4	..
Former occasional	No.	543	44.26	319	98	..	111	..
	%	100.0		58.7	18.1	..	20.4	..
Never smoked	No.	1,766	45.71	1,009	393	..	342	..
	%	100.0		57.2	22.3	..	19.4	..
Unknown	No.	243	46.73	68	..	..	110	..
	%	100.0		27.9	..	..	45.2	..
Female:								
Total	No.	7,562	34.38	2,649	1,810	99	2,683	321
	%	100.0		35.0	23.9	1.3	35.5	4.2
Current	No.	2,732	34.66	872	752	63	903	143
	%	100.0		31.9	27.5	2.3	33.0	5.2
Occasional	No.	264	35.71	115	73	..	69	..
	%	100.0		43.5	27.8	..	26.3	..
Former regular	No.	911	33.34	367	235	..	290	..
	%	100.0		40.2	25.8	..	31.8	..
Former occasional	No.	704	34.98	269	180	..	238	..
	%	100.0		38.2	25.5	..	33.8	..
Never smoked	No.	2,572	34.05	915	547	..	954	127
	%	100.0		35.6	21.3	..	37.1	4.9
Unknown	No.	379	35.30	112	..	..	229	..
	%	100.0		29.5	..	..	60.4	..

TABLE 32. Population 15-64 Years by Fitness Level and Mean Estimated $\dot{V}O_2$ Max., by Sex and Physical Activity Index, Canada, 1978-79

Level of physical activity		Fitness level						
		Total	Mean $\dot{V}O_2$ max.	Recommended level	Minimum acceptable	Below acceptable	Screened out	Unknown
		in thousands						
Both sexes:								
Total	**No.**	**15,060**	**39.49**	**6,054**	**3,322**	**188**	**4,897**	**599**
	%	**100.0**		**40.2**	**22.1**	**1.2**	**32.5**	**4.0**
Sedentary	**No.**	**2,038**	**38.96**	**539**	**400**	**..**	**950**	**88**
	%	**100.0**		**26.5**	**19.6**	**..**	**46.6**	**4.3**
Moderately inactive	**No.**	**2,678**	**38.05**	**975**	**651**	**36**	**934**	**83**
	%	**100.0**		**36.4**	**24.3**	**1.3**	**34.9**	**3.1**
Moderate	**No.**	**2,779**	**38.82**	**1,095**	**651**	**36**	**924**	**73**
	%	**100.0**		**39.4**	**23.4**	**1.3**	**33.2**	**2.6**
Moderately active	**No.**	**3,092**	**39.21**	**1,405**	**748**	**..**	**773**	**121**
	%	**100.0**		**45.4**	**24.2**	**..**	**25.0**	**3.9**
Very active	**No.**	**2,821**	**42.30**	**1,434**	**627**	**..**	**667**	**93**
	%	**100.0**		**50.8**	**22.2**	**..**	**23.6**	**3.3**
Unknown	**No.**	**1,652**	**38.20**	**606**	**245**	**..**	**650**	**142**
	%	**100.0**		**36.7**	**14.8**	**..**	**39.4**	**8.6**
Male:								
Total	No.	7,498	44.13	3,405	1,511	88	2,214	278
	%	100.0		45.4	20.2	1.2	29.5	3.7
Sedentary	No.	1,241	42.58	329	238	..	601	48
	%	100.0		26.5	19.2	..	48.4	3.9
Moderately inactive	No.	1,046	43.67	434	265	..	302	..
	%	100.0		41.5	25.3	..	28.9	..
Moderate	No.	1,224	43.53	569	250	..	357	..
	%	100.0		46.5	20.4	..	29.2	..
Moderately active	No.	1,584	43.88	751	334	..	403	..
	%	100.0		47.4	21.1	..	25.4	..
Very active	No.	1,638	46.26	941	345	..	309	..
	%	100.0		57.5	21.0	..	18.9	..
Unknown	No.	766	42.58	381	79	..	242	60
	%	100.0		49.7	10.4	..	31.6	7.8
Female:								
Total	No.	7,562	34.38	2,649	1,810	99	2,683	321
	%	100.0		35.0	23.9	1.3	35.5	4.2
Sedentary	No.	797	33.72	210	161	..	349	39
	%	100.0		26.4	20.2	..	43.8	4.9
Moderately inactive	No.	1,632	33.87	541	385	..	632	..
	%	100.0		33.1	23.6	..	38.7	..
Moderate	No.	1,555	34.57	526	401	..	566	..
	%	100.0		33.8	25.8	..	36.4	..
Moderately active	No.	1,508	34.43	654	414	..	371	52
	%	100.0		43.4	27.5	..	24.6	3.5
Very active	No.	1,183	35.72	493	283	.	357	..
	%	100.0		41.6	23.9	.	30.2	..
Unknown	No.	886	33.07	225	165	..	409	82
	%	100.0		25.4	18.7	..	46.1	9.3

TABLE 33. Population 15-64 Years by Fitness Level and Mean Estimated $\dot{V}O_2$ Max., by Level of Physical Activity and Age, Canada, 1978-79

Level of physical activity		Fitness level						
		Total	Mean $\dot{V}O_2$ max.	Recommended level	Minimum acceptable	Below acceptable	Screened out	Unknown
		in thousands						
Age 15-64:								
Total	**No.**	**15,060**	**39.49**	**6,054**	**3,322**	**188**	**4,897**	**599**
	%	**100.0**		**40.2**	**22.1**	**1.2**	**32.5**	**4.0**
Sedentary	**No.**	**2,038**	**38.96**	**539**	**400**	--	**950**	**88**
	%	**100.0**		**26.5**	**19.6**	--	**46.6**	**4.3**
Moderately inactive	**No.**	**2,678**	**38.05**	**975**	**651**	**36**	**934**	**83**
	%	**100.0**		**36.4**	**24.3**	**1.3**	**34.9**	**3.1**
Moderate	**No.**	**2,779**	**38.82**	**1,095**	**651**	**36**	**924**	**73**
	%	**100.0**		**39.4**	**23.4**	**1.3**	**33.2**	**2.6**
Moderately active	**No.**	**3,092**	**39.21**	**1,405**	**748**	--	**773**	121
	%	**100.0**		**45.4**	**24.2**	--	**25.0**	3.9
Very active	**No.**	**2,821**	**42.30**	**1,434**	**627**	--	**667**	**93**
	%	**100.0**		**50.8**	**22.2**	--	**23.6**	**3.3**
Unknown	**No.**	**1,652**	**38.20**	**606**	**245**	--	**650**	**142**
	%	**100.0**		**36.7**	**14.8**	--	**39.4**	**8.6**
15-19:								
Total	No.	2,289	46.15	1,109	690	19	376	95
	%	100.0		48.4	30.2	.8	16.4	4.2
Sedentary	No.	181	44.98	75	48	..	..	--
	%	100.0		41.5	26.2	--	..	..
Moderately inactive	No.	321	44.20	90	142	..	..	..
	%	100.0		27.9	44.1	--	..	..
Moderate	No.	331	45.06	157	114	--	--	--
	%	100.0		47.5	34.6	--	--	--
Moderately active	No.	467	45.31	232	154	--	46	--
	%	100.0		49.6	33.1	..	9.8	..
Very active	No.	816	47.78	480	197	.	118	--
	%	100.0		58.8	24.1	.	14.5	..
Unknown	No.	173	47.24	75	35	..	52	..
	%	100.0		43.6	20.4	..	30.1	..
20-24:								
Total	No.	2,175	43.69	904	663	--	478	79
	%	100.0		41.6	30.5	--	22.0	3.6
Sedentary	No.	314	42.41	94	107	..	78	..
	%	100.0		30.1	34.1	--	24.9	--
Moderately inactive	No.	391	41.91	171	92	--	109	--
	%	100.0		43.9	23.5	--	27.9	--
Moderate	No.	462	42.69	186	155	--	105	--
	%	100.0		40.2	33.5	--	22.7	--
Moderately active	No.	416	43.43	156	180	.	56	--
	%	100.0		37.5	43.2	.	13.5	..
Very active	No.	388	46.79	193	109	.	58	..
	%	100.0		49.7	28.1	.	14.9	..
Unknown	No.	205	45.94	..	..	.	72	..
	%	100.0		..	..	.	35.2	..
25-44:								
Total	No.	6,278	38.98	2,814	1,577	--	1,537	254
	%	100.0		44.8	25.1	..	24.5	4.0
Sedentary	No.	794	39.13	219	216	..	279	49
	%	100.0		27.6	27.2	..	35.1	6.2
Moderately inactive	No.	1,236	38.65	495	341	..	336	--
	%	100.0		40.0	27.6	..	27.2	--
Moderate	No.	1,318	38.09	575	329	..	370	--
	%	100.0		43.7	25.0	..	28.1	--
Moderately active	No.	1,369	39.06	754	317	..	241	..
	%	100.0		55.1	23.2	..	17.6	..
Very active	No.	1,039	40.15	556	252	.	211	..
	%	100.0		53.5	24.3	.	20.3	..
Unknown	No.	522	39.09	215	121	..	100	81
	%	100.0		41.2	23.2	..	19.2	15.4
45-64:								
Total	No.	4,317	29.38	1,227	391	..	2,506	171
	%	100.0		28.4	9.1	..	58.1	4.0
Sedentary	No.	749	29.98	150	--	..	549	--
	%	100.0		20.1	..	..	73.3	..
Moderately inactive	No.	731	28.22	220	76	..	407	..
	%	100.0		30.0	10.4	..	55.7	..
Moderate	No.	667	28.48	177	52	..	415	..
	%	100.0		26.5	7.9	..	62.1	..
Moderately active	No.	839	29.31	263	96	..	430	..
	%	100.0		31.4	11.5	..	51.2	..
Very active	No.	579	30.28	205	69	..	280	..
	%	100.0		35.5	12.0	..	48.3	..
Unknown	No.	752	30.21	212	68	..	426	44
	%	100.0		28.1	9.0	..	56.6	5.9

TABLE 34. Mean Diastolic Blood Pressure by Level of Physical Activity, by Age and Sex, for the Population 15-64 Years, Canada, 1978-79

	Level of physical activity						
	Total	Sedentary	Moderately inactive	Moderate	Moderately active	Very active	Unknown
Both sexes:							
All ages	**77.17**	**79.52**	**76.68**	**77.30**	**76.93**	**75.75**	**77.69**
15-19	**70.67**	**71.38**	**71.03**	**71.97**	**69.97**	**71.10**	**66.41**
20-24	**73.33**	**72.95**	**71.40**	**75.00**	**72.59**	**73.50**	**74.96**
25-44	**77.31**	**79.84**	**76.49**	**76.55**	**77.46**	**77.44**	**76.64**
45-64	**82.31**	**83.88**	**82.31**	**83.03**	**81.91**	**80.74**	**81.74**
Male:							
All ages	79.43	82.20	80.20	79.77	79.21	76.61	79.85
15-19	71.53	73.37	72.83	72.73	69.99	72.07	67.63
20-24	75.97	76.78	75.09	76.50	75.61	74.49	80.36
25-44	80.35	82.25	81.02	79.42	79.94	79.77	79.57
45-64	84.20	85.40	84.34	86.07	84.09	80.08	83.94
Female:							
All ages	74.92	75.32	74.44	75.36	74.51	74.58	75.85
15-19	69.75	69.60	70.14	71.32	69.96	69.56	64.20
20-24	70.69	69.35	69.24	73.70	69.27	71.23	71.15
25-44	74.28	75.37	73.08	74.54	74.85	74.15	74.30
45-64	80.51	81.05	81.19	80.35	79.36	81.28	79.99

TABLE 35. Mean Systolic Blood Pressure by Level of Physical Activity, by Age and Sex, for the Population 15-64 Years, Canada, 1978-79

	Level of physical activity						
	Total	Sedentary	Moderately inactive	Moderate	Moderately active	Very active	Unknown
Both sexes:							
All ages	**122.42**	**127.13**	**121.24**	**121.48**	**121.36**	**120.47**	**125.44**
15-19	**114.26**	**115.15**	**114.17**	**115.92**	**112.24**	**115.21**	**111.60**
20-24	**118.65**	**121.48**	**117.35**	**119.53**	**115.50**	**120.27**	**118.19**
25-44	**119.91**	**124.34**	**117.87**	**118.04**	**120.90**	**119.56**	**120.76**
45-64	**132.29**	**135.35**	**132.07**	**132.39**	**130.10**	**129.62**	**133.91**
Male:							
All ages	126.11	130.27	125.83	125.99	125.54	123.12	127.49
15-19	117.83	120.31	118.76	120.17	116.38	117.71	115.14
20-24	124.80	129.71	124.90	123.80	121.45	124.49	127.99
25-44	124.69	126.42	123.67	123.04	125.75	124.33	124.74
45-64	133.45	136.27	133.49	135.47	131.37	129.31	133.43
Female:							
All ages	118.77	122.22	118.32	117.93	116.97	116.80	123.68
15-19	110.59	110.52	111.91	112.31	108.90	111.19	105.10
20-24	112.54	113.72	112.95	115.79	108.97	110.57	111.27
25-44	115.15	120.46	113.52	114.53	115.79	112.85	117.59
45-64	131.19	133.62	131.28	129.67	128.60	129.87	134.29

Chapter IV

Seatbelt Use

SEATBELT USE

Highlights

- Seatbelt legislation does make a difference to the use of seatbelts. In provinces with such legislation, 60% of automobile drivers and passengers report wearing their seatbelts all or most of the time. Elsewhere, the corresponding figure is only 16%.

Methods

Information on seatbelt use and distances travelled was collected from persons 15 and over on the self-administered questionnaire. The questions asked are shown on page 218 of Appendix I.

The proportion of unknowns in this section is quite high. The 14% of people who failed to answer any parts of the self-administered questionnaire have been distributed across the population according to procedures described in the Overview. However, an additional 12% to 18%, depending on the questions, skipped one or more questions in the transportation section. These are reported as "unknown" categories in Tables 36 to 38.

There are two possible reasons for this relatively high rate of non-response. Some people may have had great difficulty in recalling the number of miles or kilometres driven or ridden in the past two weeks and therefore may have been unable to respond. In addition, people may have been reluctant to report failure to wear seatbelts in areas of the country where the wearing of seatbelts is required by law.

There is also an age bias in the proportions of unknowns for these questions. There are proportionally more unknowns among the youngest and oldest age groups, 15-19 and 65 and over. Results reported in Tables 36 to 38 should therefore be interpreted with caution.

Results

Kilometres Travelled and Seatbelt Use

Automobile accidents are a leading cause of death and injury in Canada, especially for young adults.[1] The number of kilometres travelled annually in automobiles and the failure to wear seatbelts both increase the risk of death or injury from automobile accidents. Tables 36 and 37 show the number of kilometres travelled annually[2] classified according to age and seatbelt use for drivers and passengers, respectively.

About one half of automobile drivers log 5 000 or more kilometres annually while about one third of automobile passengers ride in cars a distance of 5 000 or more kilometres annually. A slightly larger proportion of drivers (55%) than passengers (51%) report that they wear their seatbelts all or most of the time.

There are no statistically significant differences in the frequency of reported seatbelt use according to the number of kilometres travelled annually, for either drivers or passengers.

Seatbelt Use and The Law

Four Canadian provinces — Quebec, Ontario, Saskatchewan and British Columbia — have laws requiring people travelling in cars to wear their seatbelts. Table 38 shows the effect of such laws on the frequency of reported seatbelt use; legislation does indeed make a very significant difference. Where seatbelt use is mandatory, 60% of drivers and passengers report that they wear their seatbelts all or most of the time. Where seatbelt use is not mandatory, only 16% report that they wear their seatbelts all or most of the time. The pattern is virtually the same for all age groups. Further analysis (not shown) revealed that a slightly larger proportion of women than men wear their seatbelts all or most of the time, but that both men and women are significantly more likely to report that they wear their seatbelts all or most of the time in provinces where seatbelt use is mandatory. These findings confirm the effectiveness of seatbelt legislation as a measure to improve public health and safety.

Discussion

Sixteen per cent of respondents did not answer the question about seatbelt use. However, the difference in reported prevalence of seatbelt use between provinces with legislation and those without such legislation is so large that even this relatively high proportion of unknowns cannot alter the conclusion that seatbelt legislation is effective in increasing the prevalence of seatbelt use.

The findings reporting seatbelt use are corroborated by observation surveys. A 1979 roadside observation survey sponsored by Transport Canada estimated that seatbelt use rates for drivers were 51% in provinces with legislation and only 14% in provinces without seatbelt legislation.[3] These are close to the corresponding Canada Health Survey estimates of 60% and 16%, respectively.

While seatbelt legislation is apparently effective, its effectiveness is still only relative. A seatbelt use rate of 60% is much better than 16%. However, 60% is still a long way from 100%, the ideal rate of seatbelt use.

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1 B.L. Ouellet. *Health Field Indicators*. Ottawa: Health and Welfare Canada, September 1979.

2 Annual estimates of kilometres driven and kilometres travelled as a passenger have been derived from the reported kilometres driven or travelled in the past two weeks in the following manner:
Each two-week report of kilometres driven or travelled is multiplied by 6.5 to represent the winter, summer or autumn according to the season in which data were actually collected. (No data were collected in the spring.)
To each of these weighted estimates is added the average seasonal estimate of kilometres driven or travelled for respondents in the same age-sex-community size categories for each of the other three seasons. Autumn data are used to estimate the missing spring data.
The annual estimates so produced are reported in categories of less than 5 000 and 5 000 or more kilometres per year.

3 H.R. Arora. *Seatbelt Use by Canadian Drivers, 1979*. Technical Memorandum TMSE8101. Ottawa: Road and Motor Vehicle Traffic Safety, Transport Canada, April 1981.

TABLE 36. Population 15 Years and Over who Drove a Car in the Previous Two Weeks by Seatbelt Use, by Age and Estimated Kilometres Driven Annually, Canada, 1978-79

Number of kilometres driven annually		Seatbelt use - Automobile drivers			
		Total	Always or most of the time	Rarely or never	Unknown
		in thousands			
Age 15 and over:					
Total	**No.**	**11,349**	**6,277**	**3,424**	**1,647**
	%	**100.0**	**55.3**	**30.2**	**14.5**
Less than 5 000 kilometres	**No.**	**4,431**	**2,780**	**1,499**	**152**
	%	**100.0**	**62.7**	**33.8**	**3.4**
5 000 kilometres and over	**No.**	**5,587**	**3,497**	**1,925**	**165**
	%	**100.0**	**62.6**	**34.5**	**3.0**
Unknown	**No.**	**1,330**	-	-	**1,330**
	%	**100.0**	-	-	**100.0**
15-19:					
Total	No.	1,155	451	378	326
	%	100.0	39.0	32.7	28.3
Less than 5 000 kilometres	No.	534	297	218	19
	%	100.0	55.6	40.8	3.6
5 000 kilometres and over	No.	321	154	160	..
	%	100.0	48.0	50.0	..
Unknown	No.	300	-	-	300
	%	100.0	-	-	100.0
20-24:					
Total	No.	1,551	770	636	145
	%	100.0	49.6	41.0	9.4
Less than 5 000 kilometres	No.	640	338	289	13
	%	100.0	52.9	45.1	2.0
5 000 kilometres and over	No.	794	432	347	15
	%	100.0	54.4	43.8	1.9
Unknown	No.	117	-	-	117
	%	100.0	-	-	100.0
25-44:					
Total	No.	4,846	2,889	1,503	454
	%	100.0	59.6	31.0	9.4
Less than 5 000 kilometres	No.	1,949	1,250	639	61
	%	100.0	64.1	32.8	3.1
5 000 kilometres and over	No.	2,573	1,639	865	69
	%	100.0	63.7	33.6	2.7
Unknown	No.	324	-	-	324
	%	100.0	-	-	100.0
45-64:					
Total	No.	2,931	1,711	729	491
	%	100.0	58.4	24.9	16.8
Less than 5 000 kilometres	No.	975	671	265	39
	%	100.0	68.8	27.1	4.0
5 000 kilometres and over	No.	1,564	1,040	464	60
	%	100.0	66.5	29.7	3.8
Unknown	No.	392	-	-	392
	%	100.0	-	-	100.0
65 and over:					
Total	No.	865	457	178	231
	%	100.0	52.8	20.5	26.7
Less than 5 000 kilometres	No.	334	225	89	20
	%	100.0	67.3	26.8	6.0
5 000 kilometres and over	No.	335	232	88	15
	%	100.0	69.3	26.3	4.4
Unknown	No.	196	-	-	196
	%	100.0	-	-	100.0

TABLE 37. Population 15 Years and Over who were Automobile Passengers in the Previous Two Weeks by Seatbelt Use, by Age and Estimated Kilometres Travelled Annually, Canada, 1978-79

Number of kilometres travelled annually		Seatbelt use - Automobile passengers			
		Total	Always or most of the time	Rarely or never	Unknown
		in thousands			
Age 15 and over:					
Total	**No.**	**12,418**	**6,276**	**4,182**	**1,961**
	%	**100.0**	**50.5**	**33.7**	**15.8**
Less than 5 000 kilometres	**No.**	**6,730**	**3,827**	**2,693**	**210**
	%	**100.0**	**56.9**	**40.0**	**3.1**
5 000 kilometres and over	**No.**	**4,044**	**2,449**	**1,489**	**106**
	%	**100.0**	**60.6**	**36.8**	**2.6**
Unknown	**No.**	**1,644**	-	-	**1,644**
	%	**100.0**	-	-	**100.0**
15-19					
Total	No.	2,026	886	879	261
	%	100.0	43.7	43.4	12.9
Less than 5 000 kilometres	No.	1,151	561	557	33
	%	100.0	48.7	48.4	2.9
5 000 kilometres and over	No.	672	325	322	..
	%	100.0	48.4	48.0	..
Unknown	No.	203	-	-	203
	%	100.0	-	-	100.0
20-24					
Total	No.	1,686	720	769	198
	%	100.0	42.7	45.6	11.7
Less than 5 000 kilometres	No.	932	416	500	16
	%	100.0	44.6	53.6	1.7
5 000 kilometres and over	No.	592	304	269	19
	%	100.0	51.3	45.5	3.2
Unknown	No.	162	-	-	162
	%	100.0	-	-	100.0
25-44					
Total	No.	4,457	2,375	1,451	630
	%	100.0	53.3	32.6	14.1
Less than 5 000 kilometres	No.	2,468	1,460	955	53
	%	100.0	59.2	38.7	2.1
5 000 kilometres and over	No.	1,436	915	496	25
	%	100.0	63.7	34.5	1.7
Unknown	No.	552	-	-	552
	%	100.0	-	-	100.0
45-64					
Total	No.	2,953	1,618	763	573
	%	100.0	54.8	25.8	19.4
Less than 5 000 kilometres	No.	1,469	943	471	55
	%	100.0	64.2	32.1	3.8
5 000 kilometres and over	No.	986	675	292	19
	%	100.0	68.5	29.6	1.9
Unknown	No.	499	-	-	499
	%	100.0	-	-	100.0
65 and over					
Total	No.	1,296	678	319	299
	%	100.0	52.3	24.6	23.0
Less than 5 000 kilometres	No.	711	448	210	53
	%	100.0	63.0	29.5	7.5
5,000 kilometres and over	No.	359	230	109	19
	%	100.0	64.3	30.5	5.2
Unknown	No.	227	-	-	227
	%	100.0	-	-	100.0

TABLE 38. Population 15 Years and Over who Drove or Rode in a Car in the Previous Two Weeks by Consistency of Seatbelt Use, by Age and Provincial Seatbelt Legislation, Canada, 1978-79

Seatbelt legislation		Consistency of seatbelt use				
		Total	Always or most of the time	Inconsistently	Rarely or never	Unknown
		in thousands				
Age 15 and over:						
Total	**No.**	**15,524**	**7,643**	**476**	**4,610**	**2,795**
	%	**100.0**	**49.2**	**3.1**	**29.7**	**18.0**
Seatbelt use mandatory	**No.**	**11,855**	**7,134**	**389**	**2,519**	**1,812**
	%	**100.0**	**60.2**	**3.3**	**21.2**	**15.3**
Seatbelt use not mandatory	**No.**	**3,204**	**509**	**87**	**2,091**	**516**
	%	**100.0**	**15.9**	**2.7**	**65.3**	**16.1**
Unknown	**No.**	**466**	-	-	-	**466**
	%	**100.0**	-	-	-	**100.0**
15-19:						
Total	No.	2,126	826	64	807	429
	%	100.0	38.9	3.0	37.9	20.2
Seatbelt use mandatory	No.	1,556	766	50	489	250
	%	100.0	49.2	3.2	31.5	16.1
Seatbelt use not mandatory	No.	465	60	14	317	73
	%	100.0	13.0	3.0	68.2	15.8
Unknown	No.	106	.	.	.	106
	%	100.0	.	.	.	100.0
20-24:						
Total	No.	2,014	853	110	790	261
	%	100.0	42.4	5.4	39.2	13.0
Seatbelt use mandatory	No.	1,520	793	92	474	161
	%	100.0	52.2	6.1	31.2	10.6
Seatbelt use not mandatory	No.	451	60	17	317	57
	%	100.0	13.3	3.8	70.1	12.7
Unknown	No.	43	.	.	.	43
	%	100.0	.	.	.	100.0
25-44:						
Total	No.	5,876	3,095	215	1,708	858
	%	100.0	52.7	3.7	29.1	14.6
Seatbelt use mandatory	No.	4,546	2,876	178	912	580
	%	100.0	63.3	3.9	20.1	12.8
Seatbelt use not mandatory	No.	1,211	219	37	796	159
	%	100.0	18.1	3.1	65.8	13.1
Unknown	No.	119	.	.	.	119
	%	100.0	.	.	.	100.0
45-64:						
Total	No.	3,944	2,081	79	948	837
	%	100.0	52.8	2.0	24.0	21.2
Seatbelt use mandatory	No.	3,056	1,952	63	477	564
	%	100.0	63.9	2.1	15.6	18.4
Seatbelt use not mandatory	No.	764	129	15	471	148
	%	100.0	16.9	2.0	61.7	19.4
Unknown	No.	125	.	.	.	125
	%	100.0	.	.	.	100.0
85 and over:						
Total	No.	1,564	787	9	357	410
	%	100.0	50.3	.6	22.8	26.2
Seatbelt use mandatory	No.	1,177	747	..	167	257
	%	100.0	63.4	..	14.2	21.9
Seatbelt use not mandatory	No.	313	41	..	190	79
	%	100.0	13.0	..	60.7	25.2
Unknown	No.	74	.	.	.	74
	%	100.0	.	.	.	100.0

Chapter V

Immune Status

IMMUNE STATUS

Highlights

- There are an estimated 237,000 women between the age of 20 and 34 in Canada who are inadequately protected against rubella, a disease which has the potential for causing birth defects.
- More than 4.5 million Canadians are susceptible to polio. The proportion of the population which is susceptible is nearly twice as great in Quebec as in other regions.

Methods

Degree of immunity to certain viral and bacterial diseases was determined by blood sample analysis in the Laboratory Centre for Disease Control, Health and Welfare Canada. For diphtheria and tetanus, **in vivo** tests were performed, the antibody levels being reported here as either insufficient (less than 0.01 antibody units per ml.) or sufficient (0.01 units/ml. or greater). Titrations using hemagglutination-inhibition were carried out for measles and rubella antibody. Mumps antibody was determined by complement fixation testing and antibody to each of the three types of poliovirus was determined by neutralization testing. Serial twofold dilutions were tested, starting at a dilution of one in eight for measles, mumps and rubella, and one in 10 for the three polioviruses. The highest dilution giving a "positive" reaction is reported here as the antibody titre for each virus. As is usual using serial twofold dilutions, the accuracy of the determination is ± 1 dilution.

Blood samples were collected from respondents age three years and older at the conclusion of the Physical Measures visit. Of those who participated in the physical measures, 80% agreed to give a blood sample, but 10% of these either changed their minds or proved unable to give an adequate sample. These "unknowns" have been distributed amongst the response categories, as explained under "Data Limitations" in the Overview.

The effect of refusals to undergo venipuncture and failures to obtain blood for analysis is to severely limit sample size, particularly among the youngest age groups. The small sample size precludes much disaggregation of the data. In fact, it has been necessary in presenting the data for measles, mumps, rubella and polio, to aggregate the six titre levels reported by the laboratory into three groups, in order to permit cross-tabulation against other variables while maintaining acceptably small sample error.

Results

Table 39 shows that for both sexes, 13% of the population has rubella antibody titres of one in eight or lower. For both sexes the proportion having a low titre is 16% for ages 6-9, increases slightly for ages 10-14, then falls progressively with increasing age, to 6% of females aged 25-34. Table 40 indicates that the proportions having low titres in all five regions of Canada are similar, lying between 11% and 13%, with the Prairies somewhat higher at 17%. (The small sample size prohibits showing the breakdown necessary to assess differences among all the provinces.)

Tables 41 to 48 inclusive illustrate antibody levels to the three types of poliomyelitis virus in the population aged 6 to 44. Tables 41 to 46 report the levels of antibodies to the three polioviruses separately. Tables 47 and 48 combine the results for the three types by considering for each respondent the lowest titre of the three, as a measure of susceptibility to one or more poliovirus type.

Several facts stand out. Nationally, the proportion having titres of one in 10 or less is 16%, 12% and 20% for types one, two and three respectively. Overall, 32% of the population has an antibody titre of one in 10 or less for at least one of the three viruses (Table 47). Quebec has the greatest prevalence of low titres — 25%, 16% and 32% for the three types respectively — while 47% have a titre of one in 10 or less for at least one of the three types. These proportions are between 1.4 and 2.2 times those for the rest of Canada. Ontario has the second highest prevalence in each case (the same as that for the Prairies in the case of type three). The Prairie provinces show the smallest proportion (21%) having a low titre to one or more of the three types.

Tables 41, 43, 45 and 47 illustrate polio antibody levels by age group. The 20-24 year group has the smallest proportion of low titres, by a considerable margin in each case. Within this group the prevalence of low titres to each of the three viruses is between one-half and two-thirds that for the rest of the population, and the two adjacent age groups are not substantially different from the rest of the population. The oldest group, 35-44 years, has the greatest proportion of low titres, with 45% showing a titre of one in 10 or less to at least one type.

Diphtheria immunity was measured for two age groups, 3-5 years and 15-19 years. Table 49 shows that the older group has half as many in adequately protected (15% vs. 27%) and nearly twice as many adequately protected (82% vs. 45% for the younger). The levels are similar for four of Canada's regions, with approximately 65-70% adequately protected, except for the Prairies where there are 86% with sufficient immunity to diphtheria (Table 50).

Tetanus immunity is generally high, as demonstrated in Tables 51 and 52. In the 6-19 year age group, the proportion adequately protected ranges from 88% to 94%, with most of the remainder falling in the "unknown" category. Protection varies with geographic region. Quebec has the lowest proportion protected (81%), with the Atlantic region next (86%). In the three other regions of Canada, there is sufficient immunity in at least 93% of the population.

Measles antibody levels are displayed in Tables 53 and 54 for age groups 3-5 and 15-19 years. The younger age group has a greater proportion than the older of levels less than one in eight (57% vs. 40%). Proportions are similar across the five regions, with 38%-45% having titres below one in eight, except in the Prairies, where the proportion is 56%.

Antibody levels to mumps were measured for ages 6-14 years. The proportion having titres of less than one in eight was slightly higher (55%) for the 6-9 year group than the 10-14 year

group at 50% (Table 55). The proportion of lower levels ranges from 47% in Quebec to 64% in British Columbia (Table 56).

Discussion

A person exposed to a viral or bacterial infection may or may not develop the corresponding disease. If he does, he may have a mild case or a severe one. Many factors are involved in the development of disease, some of which are independent of the person exposed, such as the extent of the exposure. Serum antibody is an important determinant, but other defences such as cellular immunity also play a role. Therefore, there is no level of serum antibody which can be considered critical in the sense of guaranteeing protection to those having higher antibody levels and susceptibility to those having lower levels. In general, high levels indicate protection because they generally arise from previous exposure of the immune system to the disease (or to an artificial active immunizing agent). Low levels are associated with susceptibility because they usually occur among those having had no previous exposure. In the tables in this chapter, the columns immediately to the right of the "Total" indicate antibody levels which are associated with a relatively high risk of susceptibility. Columns further to the right indicate higher probabilities of protection.

The tests reported in this chapter do not distinguish between antibody present as a result of natural infection, and that due to artificial immunization. Thus, frequent occurrence of high antibody levels, for example, within a particular geographic region, may arise as a result either of high prevalence of the natural disease, or of effective immunization programs. Frequent occurrence of low levels indicates absence of both naturally acquired and artificially induced immunity.

Immunity to rubella is of interest because of the potential for the disease to cause birth defects in infants born to women infected during gestation. A titre of one in 16 or greater is usually regarded as indicating adequate protection. Analysis of data not shown here reveals that 93% of persons having a titre of less than one in 16 in fact have a titre of less than one in eight. It is therefore reasonable to use the "one in eight or less" category as a measure of inadequate protection. Table 39 shows that there are 237,000 women of ages 20-34 in Canada — in the prime of their child-bearing years — who are inadequately protected against rubella. The large number of unprotected in the younger age groups is also a matter of concern. The unprotected females aged 6-14 are potentially the unprotected expectant mothers of the future.

Poliomyelitis is an acute viral illness which in its severe form can cause permanent paralysis or death. Its distribution is world-wide. Most infections are mild and transient, and epidemics have been limited to a relatively few areas. In North America, the epidemics of paralytic poliomyelitis which were common in the first half of the century have been reduced to sporadic small outbreaks since the introduction of immunization in the mid 1950's and early 1960's.

There are three distinct types of poliovirus, each capable of causing paralytic disease. They are antigenically distinct, so that protection against one does not confer immunity to the others.

The "low immunity" category in the tables corresponds to antibody titres of one in 10 or less. Analysis of data not shown here indicates that 60%-70% of such levels are in fact less than one in 10.

The better protection of the 20-24 year age group may represent the first enthusiastic rush to obtain immunization when polio vaccine was first introduced in the late 1950's. Members of this group were either young children at the time, or were born during the first few years afterward. Among those investigated, the least well protected group is the oldest — people who were early teenagers or older at the time the vaccine was introduced. They may have been less well covered at the time, being past the prime age for "infantile paralysis", and their immunization levels have not caught up since. On the other hand, those younger than 20 are also less well protected. Possibly this is due to decreased public awareness and concern as the polio epidemics faded into history. The proportion unprotected is quite similar throughout the age range 6-19 years. This may indicate that the proportion being immunized did not change greatly between 1959 and the mid 1970's.

Quebec stands out as the region having the greatest proportion of its population susceptible to polio. Whether this arises because of some factor which reduces the population's exposure to the wild viruses, or because of less effective coverage by immunization programs, is unclear. It is clear that low polio immunity is approximately twice as prevalent in Quebec as in the rest of the country, and that nearly half of Quebec residents are susceptible to one or more poliovirus types.

Diphtheria is an acute infection caused by the bacillus **Corynebacterium diphtheriae.** It usually localizes in the upper respiratory tract, and may cause obstruction of the airway. A toxin elaborated by the bacteria may cause cardiac and peripheral nerve effects. The overall death rate is about 10%. Immunization is highly effective prophylaxis. Since diphtheria is not a common disease, most of the observed immunity is attributable to routine immunization during infancy. Regional differences are presumed to be largely due to differing immunization programs.

Tetanus is an acute disease, frequently fatal, caused by the bacillus **Clostridium tetani.** The bacterium is ubiquitous, so observed regional differences may be attributed to differences in immunization programs.

Measles and mumps are common viral diseases. Most cases resolve completely, but in a small proportion there may be a variety of significant complications. The observed decrease in prevalence of low titres with increasing age is to be expected on the basis of increasing probability of encountering the diseases or of having immunization carried out. The estimated 45% of the population with a titre level for measles of less than one in eight may be due to an insensitive test, to a decrease in measles antibody after immunization, or a failure in the vaccine delivery system.

In summary, these findings confirm some of the fears of epidemiologists and public health officials regarding the immune status of the population. Since all of the communicable diseases investigated here can be effectively avoided with immunization and since immune status is demonstrably insufficient for some groups, the current effort to raise immunity levels needs to be continued and become more focused.

TABLE 39. Males 6-19 Years and Females 6-34 Years by Rubella Antibody Level, by Age, Canada, 1978-79

		Rubella antibody level (reciprocal of titre level)				
		Total	Less than or equal to 8	16-32	Greater than or equal to 64	Unknown
		in thousands				
All age groups	**No.**	**8,827**	**1,135**	**2,171**	**4,930**	**592**
	%	**100.0**	**12.9**	**24.6**	**55.8**	**6.7**
6-9 (both sexes)	No.	1,445	231	445	627	..
	%	100.0	16.0	30.8	43.4	..
10-14 (both sexes)	No.	2,030	375	633	921	100
	%	100.0	18.5	31.2	45.4	4.9
15-19 (both sexes)	No.	2,333	291	400	1,480	162
	%	100.0	12.5	17.1	63.4	6.9
20-24 (females only)	No.	1,113	121	195	774	..
	%	100.0	10.9	17.5	69.5	..
25-34 (females only)	No.	1,906	116	499	1,128	163
	%	100.0	6.1	26.2	59.2	8.5

TABLE 40. Males 6-19 Years and Females 6-34 Years by Rubella Antibody Level, Canada and Regions, 1978-79

		Rubella antibody level (reciprocal of titre level)				
		Total	Less than or equal to 8	16-32	Greater than or equal to 64	Unknown
		in thousands				
Canada	**No.**	**8,827**	**1,135**	**2,171**	**4,930**	**592**
	%	**100.0**	**12.9**	**24.6**	**55.8**	**6.7**
Atlantic region	No.	899	109	148	565	77
	%	100.0	12.1	16.5	62.8	8.5
Quebec	No.	2,389	298	636	1,306	150
	%	100.0	12.5	26.6	54.6	6.3
Ontario	No.	3,151	381	828	1,732	210
	%	100.0	12.1	26.3	55.0	6.7
Prairie region	No.	1,480	250	254	845	..
	%	100.0	16.9	17.2	57.1	..
British Columbia	No.	908	97	305	483	..
	%	100.0	10.6	33.6	53.1	..

TABLE 41. Population 6-44 Years by Polio 1 Antibody Level, by Age, Canada, 1978-79

		Polio 1 antibody level (reciprocal of titre level)				
		Total	Less than or equal to 10	20-40	Greater than or equal to 80	Unknown
		in thousands				
All age groups	**No.**	**14,495**	**2,253**	**4,133**	**7,655**	**453**
	%	**100.0**	**15.5**	**28.5**	**52.8**	**3.1**
6-9	No.	1,445	206	422	617	201
	%	100.0	14.3	29.2	42.7	13.9
10-14	No.	2,030	342	555	1,010	--
	%	100.0	16.8	27.3	49.7	--
15-19	No.	2,333	408	603	1,283	--
	%	100.0	17.5	25.9	55.0	--
20-24	No.	2,233	228	713	1,279	--
	%	100.0	10.2	31.9	57.3	--
25-34	No.	3,787	492	1,057	2,172	66
	%	100.0	13.0	27.9	57.4	1.7
35-44	No.	2,666	578	783	1,294	--
	%	100.0	21.7	29.0	48.5	--

TABLE 42. Population 6-44 Years by Polio 1 Antibody Level, Canada and Regions, 1978-79

		Polio 1 antibody level (reciprocal of titre level)				
		Total	Less than or equal to 10	20-40	Greater than or equal to 80	Unknown
		in thousands				
Canada	**No.**	**14,495**	**2,253**	**4,133**	**7,655**	**453**
	%	**100.0**	**15.5**	**28.5**	**52.8**	**3.1**
Atlantic region	No.	1,398	169	376	788	--
	%	100.0	12.1	26.9	56.3	--
Quebec	No.	3,974	996	1,357	1,541	--
	%	100.0	25.1	34.1	38.8	--
Ontario	No.	5,209	755	1,331	2,906	217
	%	100.0	14.5	25.6	55.8	4.2
Prairie region	No.	2,399	200	627	1,490	--
	%	100.0	8.3	26.1	62.1	--
British Columbia	No.	1,515	132	441	932	--
	%	100.0	8.7	29.1	61.5	--

TABLE 43. Population 6-44 Years by Polio 2 Antibody Level, by Age, Canada, 1978-79

		Polio 2 antibody level (reciprocal of titre level)				
		Total	Less than or equal to 10	20-40	Greater than or equal to 80	Unknown
		in thousands				
All age groups	**No.**	**14,495**	**1,693**	**4,256**	**8,093**	**453**
	%	**100.0**	**11.7**	**29.4**	**55.8**	**3.1**
6-9	No.	1,445	199	339	706	201
	%	100.0	13.8	23.4	48.9	13.9
10-14	No.	2,030	217	617	1,072	..
	%	100.0	10.7	30.4	52.8	..
15-19	No.	2,333	259	716	1,319	..
	%	100.0	11.1	30.7	56.6	..
20-24	No.	2,233	149	684	1,388	..
	%	100.0	6.7	30.6	62.1	..
25-34	No.	3,787	476	1,126	2,120	66
	%	100.0	12.6	29.7	56.0	1.7
35-44	No.	2,666	392	775	1,488	..
	%	100.0	14.7	29.1	55.8	..

TABLE 44. Population 6-44 Years by Polio 2 Antibody Level, Canada and Regions, 1978-79

		Polio 2 antibody level (reciprocal of titre level)				
		Total	Less than or equal to 10	20-40	Greater than or equal to 80	Unknown
		in thousands				
Canada	**No.**	**14,495**	**1,693**	**4,256**	**8,093**	**453**
	%	**100.0**	**11.7**	**29.4**	**55.8**	**3.1**
Atlantic region	No.	1,398	106	379	848	..
	%	100.0	7.6	27.1	60.7	..
Quebec	No.	3,974	635	1,276	1,983	..
	%	100.0	16.0	32.1	49.9	..
Ontario	No.	5,209	667	1,472	2,854	217
	%	100.0	12.8	28.3	54.8	4.2
Prairie region	No.	2,399	112	721	1,484	..
	%	100.0	4.7	30.0	61.9	..
British Columbia	No.	1,515	..	409	923	..
	%	100.0	..	27.0	60.9	..

TABLE 45. Population 6-44 Years by Polio 3 Antibody Level, by Age, Canada, 1978-79

		Polio 3 antibody level (reciprocal of titre level)				
		Total	Less than or equal to 10	20-40	Greater than or equal to 80	Unknown
		in thousands				
All age groups	**No.**	**14,495**	**2,821**	**4,442**	**6,774**	**457**
	%	**100.0**	**19.5**	**30.6**	**46.7**	**3.2**
6-9	No.	1,445	270	444	528	203
	%	100.0	18.7	30.7	36.6	14.1
10-14	No.	2,030	445	579	881	..
	%	100.0	21.9	28.5	43.4	..
15-19	No.	2,333	488	659	1,147	..
	%	100.0	20.9	28.3	49.2	..
20-24	No.	2,233	308	770	1,141	..
	%	100.0	13.8	34.5	51.1	..
25-34	No.	3,787	759	1,110	1,852	66
	%	100.0	20.1	29.3	48.9	1.7
35-44	No.	2,666	551	879	1,225	..
	%	100.0	20.7	33.0	45.9	..

TABLE 46. Population 6-44 Years by Polio 3 Antibody Level, Canada and Regions, 1978-79

		Polio 3 antibody level (reciprocal of titre level)				
		Total	Less than or equal to 10	20-40	Greater than or equal to 80	Unknown
		in thousands				
Canada	**No.**	**14,495**	**2,821**	**4,442**	**6,774**	**457**
	%	**100.0**	**19.5**	**30.6**	**46.7**	**3.2**
Atlantic region	No.	1,398	206	483	640	..
	%	100.0	14.7	34.6	45.8	..
Quebec	No.	3,974	1,289	1,500	1,105	..
	%	100.0	32.4	37.7	27.8	..
Ontario	No.	5,209	791	1,188	3,014	217
	%	100.0	15.2	22.8	57.9	4.2
Prairie region	No.	2,399	364	748	1,205	..
	%	100.0	15.2	31.2	50.2	..
British Columbia	No.	1,515	170	524	811	..
	%	100.0	11.2	34.6	53.5	..

TABLE 47. Population 6-44 Years by Susceptibility to One or More Polio Types, by Age, Canada, 1978-79

		Minimum polio antibody level (reciprocal of titre level)				
		Total	Less than or equal to 10	20-40	Greater than or equal to 80	Unknown
		in thousands				
All age groups	**No.**	**14,495**	**4,594**	**5,538**	**3,906**	**457**
	%	**100.0**	**31.7**	**38.2**	**26.9**	**3.2**
6-9	No.	1,445	447	460	335	203
	%	100.0	30.9	31.8	23.2	14.1
10-14	No.	2,030	550	750	605	..
	%	100.0	27.1	37.0	29.8	..
15-19	No.	2,333	676	895	724	..
	%	100.0	29.0	38.4	31.0	..
20-24	No.	2,233	503	1,076	641	..
	%	100.0	22.5	48.2	28.7	..
25-34	No.	3,787	1,209	1,536	977	66
	%	100.0	31.9	40.6	25.8	1.7
35-44	No.	2,666	1,210	821	624	..
	%	100.0	45.4	30.8	23.4	..

TABLE 48. Population 6-44 Years by Susceptibility to One or More Polio Types, Canada and Regions, 1978-79

		Minimum polio antibody level (reciprocal of titre level)				
		Total	Less than or equal to 10	20-40	Greater than or equal to 80	Unknown
		in thousands				
Canada	**No.**	**14,495**	**4,594**	**5,538**	**3,906**	**457**
	%	**100.0**	**31.7**	**38.2**	**26.9**	**3.2**
Atlantic region	No.	1,398	364	583	383	..
	%	100.0	26.0	41.7	27.4	..
Quebec	No.	3,974	1,878	1,586	430	..
	%	100.0	47.3	39.9	10.8	..
Ontario	No.	5,209	1,518	1,554	1,920	217
	%	100.0	29.1	29.8	36.9	4.2
Prairie region	No.	2,399	502	1,091	724	..
	%	100.0	20.9	45.5	30.2	..
British Columbia	No.	1,515	332	724	449	..
	%	100.0	21.9	47.8	29.6	..

TABLE 49. Population 3-5 Years and 15-19 Years by Diphtheria Immunity Level, by Age, Canada, 1978-79

		Diphtheria immunity level			
		Total	Less than .01 units/ML (insufficient)	Greater than or equal to .01 units/ML (sufficient)	Unknown
		in thousands			
Both age groups	**No.**	**3,328**	**610**	**2,365**	--
	%	**100.0**	**18.3**	71.1	--
3-5	No.	995	273	445	--
	%	100.0	27.4	44.7	--
15-19	No.	2,333	337	1,920	76
	%	100.0	14.5	82.3	3.2

TABLE 50. Population 3-5 Years and 15-19 Years by Diphtheria Immunity Level, Canada and Regions, 1978-79

		Diphtheria immunity level			
		Total	Less than .01 units/ML (insufficient)	Greater than or equal to .01 units/ML (sufficient)	Unknown
		in thousands			
Canada	**No.**	**3,328**	**610**	**2,365**	--
	%	**100.0**	**18.3**	**71.1**	--
Atlantic region	No.	349	64	228	56
	%	100.0	18.4	65.4	16.2
Quebec	No.	904	241	590	--
	%	100.0	26.6	65.3	--
Ontario	No.	1,183	--	829	--
	%	100.0	--	70.1	--
Prairie region	No.	552	--	476	50
	%	100.0	--	86.2	9.1
British Columbia	No.	340	--	241	--
	%	100.0	--	71.0	--

TABLE 51. Population 6-19 Years by Tetanus Immunity Level, by Age, Canada, 1978-79

		Tetanus immunity level			
		Total	Less than .01 units/ML (insufficient)	Greater than or equal to .01 units/ML (sufficient)	Unknown
		in thousands			
All age groups	No.	**5,808**	**180**	**5,223**	**405**
	%	**100.0**	**3.1**	**89.9**	**7.0**
6-9	No.	1,445	..	1,276	..
	%	100.0	..	88.3	..
10-14	No.	2,030	..	1,914	..
	%	100.0	..	94.3	..
15-19	No.	2,333	120	2,032	181
	%	100.0	5.1	87.1	7.7

TABLE 52. Population 6-19 Years by Tetanus Immunity Level, Canada and Regions, 1978-79

		Tetanus immunity level			
		Total	Less than .01 units/ML (insufficient)	Greater than or equal to .01 units/ML (sufficient)	Unknown
		in thousands			
Canada	No.	**5,808**	**180**	**5,223**	**405**
	%	**100.0**	**3.1**	**89.9**	**7.0**
Atlantic region	No.	620	..	530	..
	%	100.0	..	85.5	..
Quebec	No.	1,548	136	1,256	156
	%	100.0	8.8	81.2	10.1
Ontario	No.	2,068	..	1,972	..
	%	100.0	..	95.4	..
Prairie region	No.	981	..	913	..
	%	100.0	..	93.1	..
British Columbia	No.	591	..	551	..
	%	100.0	..	93.3	..

TABLE 53. Population 3-5 Years and 15-19 Years by Measles Antibody Level, by Age, Canada, 1978-79

		Measles antibody level (reciprocal of titre level)				
		Total	Less than 8	8-16	Greater than or equal to 32	Unknown
		in thousands				
Both age groups	**No.**	**3,328**	**1,496**	**1,272**	**442**	**119**
	%	**100.0**	**45.0**	**38.2**	**13.3**	**3.6**
3-5	No.	995	566	342	..	..
	%	100.0	56.9	34.4	..	..
15-19	No.	2,333	930	930	399	74
	%	100.0	39.9	39.9	17.1	3.2

TABLE 54. Population 3-5 Years and 15-19 Years by Measles Antibody Level, Canada and Regions, 1978-79

		Measles antibody level (reciprocal of titre level)				
		Total	Less than 8	8-16	Greater than or equal to 32	Unknown
		in thousands				
Canada	**No.**	**3,328**	**1,496**	**1,272**	**442**	**119**
	%	**100.0**	**45.0**	**38.2**	**13.3**	**3.6**
Atlantic region	No.	349	147	134	..	35
	%	100.0	42.1	38.4	..	9.9
Quebec	No.	904	376	379	112	38
	%	100.0	41.6	41.9	12.4	4.0
Ontario	No.	1,183	535	499	134	..
	%	100.0	45.2	42.2	11.3	..
Prairie region	No.	552	309	134	85	..
	%	100.0	56.0	24.3	15.4	..
British Columbia	No.	340	128	126	..	..
	%	100.0	37.8	37.0	..	..

TABLE 55. Population 6-14 Years by Mumps Antibody Level, by Age, Canada, 1978-79

		Mumps antibody level (reciprocal of titre level)				
		Total	Less than 8	8	Greater than or equal to 16	Unknown
		in thousands				
Both age groups	**No.**	**3,475**	**1,811**	**929**	**411**	**324**
	%	**100.0**	**52.1**	**26.7**	**11.8**	**9.3**
6-9	No.	1,445	801	373	147	125
	%	100.0	55.4	25.8	10.2	8.6
10-14	No.	2,030	1,011	556	264	199
	%	100.0	49.8	27.4	13.0	9.8

TABLE 56. Population 6-14 Years by Mumps Antibody Level, Canada and Regions, 1978-79

		Mumps antibody level (reciprocal of titre level)				
		Total	Less than 6 mumps antibody	8 mumps antibody	Greater than or equal to 16 mumps antibody	Unknown
		in thousands				
Canada	**No.**	**3,475**	**1,811**	**929**	**411**	**324**
	%	**100.0**	**52.1**	**26.7**	**11.8**	**9.3**
Atlantic region	No.	383	204	86	40	..
	%	100.0	53.2	22.5	10.5	..
Quebec	No.	903	423	..	186	..
	%	100.0	46.8	..	20.6	..
Ontario	No.	1,245	611	361	..	..
	%	100.0	49.1	29.0	..	..
Prairie region	No.	591	347	171	..	33
	%	100.0	58.7	28.9	..	5.6
British Columbia	No.	353	227	..	..	..
	%	100.0	64.3	..	..	..

Chapter VI

Health Problems and Disability

HEALTH PROBLEMS AND DISABILITY

Highlights

- Based on estimates from the survey, more than half the Canadian population have at least one health problem at a given time. However, of the problems reported, more than half did not entail behavioural consequences such as health care utilization, drug use or disability. Irrespective of the prevalence of health problems, half the respondents reported taking some form of palliative or therapeutic medication (including vitamins) during the previous two days. Those in the lowest income groups experience a markedly higher proportion of certain health problems, such as mental disorders, heart disease or bronchitis and emphysema.

- Short-term disability is experienced in the population at a rate of 15.7 annual disability days per person with females and the elderly contributing disproportionately more to this average. Long-term disability, in terms of limitation of activity during the previous 12 months, affects 12% of the population, with 2% being classified as severely disabled.

Methods

Data on health problems and disability were collected for all age groups during the household interview portion of the survey. Unknown responses are minimal for these variables since proxy answers were accepted for family members not present during the interview. The existence of health problems or selected health behaviours were deemed to be sufficiently visible and objective for reliable reporting by family members other than the respondent in question. This assumption is supported by studies of reliability and accuracy carried out for the United States National Health Interview Survey,[1] upon which much of the household interview questionnaire was based.

The interview was designed, firstly, to establish for an individual whether or not certain selected health behaviours had taken place during three reference periods: over the previous two days (drug use), over the past two weeks (disability days) or over the past 12 month (accidents and activity limitation). The reference period varied according to the reliability of the recall period. Consultations with health professionals were recorded for both the two-week and 12-month reference periods. Secondly, for each behaviour reported, the underlying health problem was sought; however, in the case of drug use and consultations with health professionals, it was recognized that there may not have been an associated health problem. Finally, a list of chronic conditions was presented to the respondent in order to establish the existence of problems which may not have resulted in one of the selected health behaviours. The format of the questionnaire can be seen in Appendix I.

Unless otherwise specified, the presentation of data relating to these health behaviours will refer to the reference period outlined above. One consistent exception is the presentation of disability days as an annual aggregate rate, taking into account seasonal variations. Significance tests were routinely carried out on the data such that use of the term "significant" in the text will refer to statistical significance calculated at $p<.01$ or better.

Results

Health Problems

Health problems were coded by experienced coders according to the ninth revision of the International Classification of Diseases (ICD-9) at the four-digit level, and later collapsed into 22 groupings appropriate to the survey data. The resulting data presented in this chapter refer to conditions perceived by individual respondents rather than diagnosed by objective examination. In fact, the health problems reported varied from symptomatic complaints to reports of very detailed diagnoses, making it difficult to code problems to an established classification such as the ICD-9. For example, the category "mental disorders" includes symptoms such as depression or insomnia, along with specific conditions such as schizophrenia. The resulting list of conditions, along with the relevant ICD-9 codes and the percentage distribution for those reported in the survey, are shown in Text Table VI.

This distribution is based on the more than 25 million conditions estimated for the entire population, indicating the existence of multiple problems for many individuals, since almost one half of the population (46%) report no problems. It must be recognized that some of this multiple reporting may be the result of different symptoms associated with one common condition. Some degree of double counting is especially suspected with regard to categories 19 (arthritis and rheumatism) and 20 (back, limb and joint disorders), which were contained in the chronic condition list.[2]

Since individuals may have more than one health problem, the presentation of the prevalence of health problems in Tables 57 to 60 is in two dimensions: by the population, and by the problems reported. This is necessary in order to interpret the distribution of health problems by type. For example, it is meaningless to determine from Table 57 that 12.5% of all health problems are reported by females 65 years of age and over, without also noting that this group makes up 4.9% of the total population. Hence, the top portion of each table shows the proportion of the population experiencing health problems, while the bottom shows the number of problems reported by type. The prevalence of health problems refers to point-prevalence whereby respondents reported existing conditions at the time of the interview.

Overall, 54% of the total population report at least one health problem, but multiple conditions are common, as half of these respondents report more than one health problem. The prevalence of health problems varies according to age, sex and region (not shown in Table 57), both in the proportion of the population reporting problems and in the number of problems reported. With the exception of hearing disorders, heart disease, asthma, ulcers, limb and joint disorders and trauma, health problems are more prevalent for females than for males. Although only three broad age groups are shown in Table 57, a positive relationship between the prevalence of health problems and increasing age is evident for persons over five years

TEXT TABLE VI. Distribution of Conditions

CHS condition	ICD 9 codes	Per cent
Total (all conditions)	**000.0-999.9**	**100.0**
1. Mental disorders	290.0-307.7, 307.9-316.0, 780.5,799.2	3.9
2. Diabetes	250.0-250.9	1.5
3. Thyroid disorders	240.0-246.9	1.2
4. Anemia	280.0-285.9	1.6
5. Headache	307.8, 346.0-346.9, 784.0	4.3
6. Sight disorders	360.0-379.9, V41.0,V41.1	4.7
7. Hearing disorders	380.0-389.9, V41.2,V41.3	4.0
8. Hypertension	401.0-405.9	6.1
9. Heart disease	391.0-392.0, 393.0-398.9, 410.0-429.9, 746.9,785.0-785.2	3.3
10. Acute respiratory ailments	460.0-466.1, 480.0-486.0	3.1
11. Influenza	487.0-487.8	2.7
12. Bronchitis and emphysema	490.0-492.0	2.2
13. Asthma	493.0-493.9	2.1
14. Hayfever and other allergies	477.0-477.9, 995.2,995.3	8.5
15. Dental trouble	520.0-525.9, V52.3,V53.4	6.6
16. Gastric and duodenal ulcers	531.0-533.9	1.9
17. Functional digestive disorders	009.0-009.3, 536.0-564.9, 787.1,787.3	2.7
18. Skin allergies and other skin disorders	680.0-709.9, 782.1	8.1
19. Arthritis and rheumatism	729.0	9.6
20. Back, limb and joint disorders	710.0-728.9, 729.1-739.9, 754.2-756.5, V43.6,V49.9	9.1
21. Trauma (accidents and injury)	800.0-995.1, 995.4-999.9	2.4
22. Other	All codes not listed above	10.4

of age. Some variation by region occurs, with a high of 63% of the British Columbia population reporting at least one problem, compared to a low of 51% for Quebec. This is partially explained by differences in age structure, since Quebec has a younger population than British Columbia (data not shown).

Another way to look at the prevalence of health problems is to take account of an individual's major activity (Table 58). In this presentation, the category "inactive/health" includes those not working or retired due to health reasons, while "inactive/other" refers to reasons other than health. All major activities refer to what an individual was doing for most of the past 12 months. Caution must be exercised in interpreting Table 58 in the absence of age breakdowns, since the prevalence of health problems is strongly related to age. This is especially important for the housekeeping group, where 72% report at least one health problem. This is partially explained by the large number of elderly women living alone who report housework as their major activity since they do not consider themselves retired and may also reflect female single parents. It is of interest to note that the major conditions associated with the inactive/health category include limb and joint disorders, arthritis and rheumatism, heart disease, mental disorders, and hypertension. These are the most prevalent disabling conditions for the noninstitutional population.

The prevalence of many health problems in the population exhibits a trend by family income (Table 59). Each income quintile represents one-fifth of the overall population (excluding unknown incomes), with the first quintile being the lowest. There is frequently a declining prevalence from the first to the fourth quintile, then a slight rise among the highest-income group. Certain problems such as mental disorders, heart disease, bronchitis and emphysema, sight disorders, diabetes, arthritis and rheumatism, hypertension, and hearing disorders are much more prevalent in the lowest-income quintile than in other quintiles. These health problems, for the most part, tend to be more limiting than others, as indicated by their importance for the inactive/health major activity group. For the highest-income quintile, trauma, hay fever and skin disorders appear to be the only health problems that stand out as being more prevalent than for lower incomes.

Selected Health Behaviours

The impact of health problems can best be appreciated by relating them to behavioural consequences, as in Table 60. The selected health behaviours include short-term disability (disability days during the past two weeks), consultations with a health professional (during the past two weeks), drug use (during the past two days), and long-term disability (activity limitation during the past 12 months). Clearly, certain health problems may result in more than one of these health behaviours while others may entail none. For example, it was possible in the questionnaire to report drug use or consultations with a health professional without specifying an associated health problem. This can best be expressed in the form of a simple table (Text Table VII) expressing percentages of the total population who report at least one health problem cross-classified by whether or not they report any consultations, drug use or disability at the time of the interview.

TEXT TABLE VII. Relationship of Health Problems to Health Behaviours

	Selected Health behaviours reported		
	Yes	No	Total
	per cent		
Health problems reported:			
Yes	43.9	10.5	54.4
No	15.3	30.3	45.6
Total	**59.2**	**40.8**	**100.0**

From this table it should be noted that, of those people reporting at least one problem, approximately one-fifth take no action, whereas of those with no problems, one-third take some form of preventive action, either in the form of medication or a professional consultation.

Table 60 can be looked at from one of two perspectives; either by selecting a health problem and measuring the impact in terms of health behaviours, or by starting with a health behaviour and investigating which health problems are most prevalent. Using the latter approach, it is seen that acute respiratory infections, influenza and trauma are responsible for most disability days; dental visits, limb and joint disorders and trauma are most prominent for consultations; hypertension, skin disorders and mental disorders are the most common problems requiring drug use; while limb and joint disorders, heart disease, arthritis and trauma are the most important health problems resulting in activity limitation.

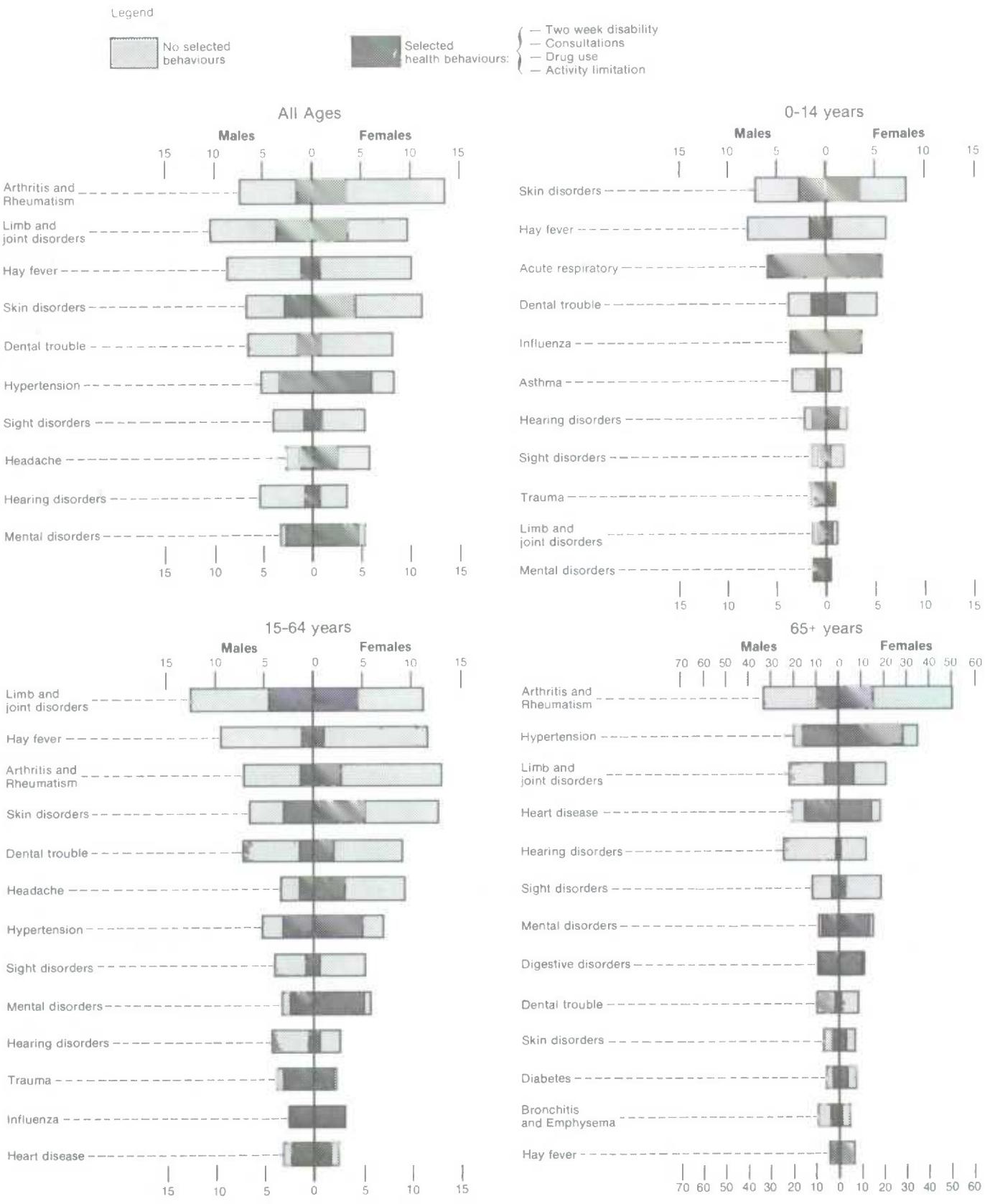
The relationship between the prevalence of health problems and selected health behaviours can best be seen graphically. Figure VI shows the prevalence of health problems per 100 persons by sex and age with the shaded area depicting those problems with which selected health behaviours were associated.

Short-term Disability

Short-term disability is based on an individual's experience during the previous two weeks; disability days were recorded if the individual was unable to do the things he or she normally does for all or most of the day. Disability days were categorized as bed-days, major activity-loss or cut-down days and have been aggregated to a total disability days estimate. Individual two-week estimates were used to derive an aggregate population estimate of annual disability days per person. This does not allow the classification of individuals according to their annual disability experience, but does permit an examination of annual rates of disability for population aggregates. For an explanation

Figure VI

Prevalence of Health Problems per 100 Persons by Selected Health Behaviours and Sex, for Selected Age Groups, Canada 1978-79



of the concept and the derivation of annual estimates, see Appendix III.

The estimated rate of annual bed-days per person is 5.3 for the entire population, while for those aged 65 years and over, the corresponding rate of bed-days per person is 13.2. The rate of bed-days per person is consistently higher for females than males and rises steeply with age, as indicated by the elevated rate for the elderly. Major activity-loss days refer to those people reporting their current major activity (past two weeks) as either working, doing housework or going to school. There are 6.9 annual major activity-loss days per person, made up of 4.3 work-loss days, 12.8 housework-loss days, and 6.2 school-loss days (Table 62).

The annual disability days presented in Tables 63 and 64 represent a combination of bed-days, major activity-loss days and cut-down days, adjusted for double counting and aggregated to an annual estimate in a similar manner (see Appendix III). There are 15.7 annual disability days per person for the entire population but rates vary considerably for certain subgroups. The rate of annual disability days per person is 18.9 for females and only 12.5 for males. A strong relationship to age occurs with the elderly (65 years and over) accounting for 35 annual disability days per person. Lower levels of education are seen to be associated with higher rates of disability days (Table 63) but this is strongly related to age as well. By region (Table 64), the rates of annual disability days per person vary from a low of 14 in the Prairies to a high of 20.6 in British Columbia.

Long-term Disability

This section reports findings on dental, hearing and vision trouble, as well as activity limitation, which represents a general measure of functional disability.

Dental trouble is one of the 22 health problem categories in Tables 57 to 60, and visits to a dentist are dealt with in Tables 88 and 89 in Chapter X. Specific questions included in the survey concerning dentures or plates are summarized in Text Table VIII, briefly.

TEXT TABLE VIII. Reported Dental Trouble

	Per cent reporting
Crowns or bridges	7.5
Partial dentures or plates	7.5
Full dentures or plates:	
Upper only	8.6
Lower only	.3
Both	13.4
Wearing them every day	21.0
Difficulty or discomfort with teeth, gums, dentures or plates	5.9

Hearing trouble was defined according to whether a person has difficulty hearing a normal conversation even with a hearing aid if one is normally worn. Table 65 shows hearing trouble according to age and sex. For the total population, it can be seen that less than 4% experience hearing trouble and less than 1% wear a hearing aid. For the elderly (65 years and over), however, 17% report hearing trouble, while 7% wear a hearing aid. A significantly higher proportion of males than females report hearing trouble for all ages. While not shown in Table 65, there is a consistent trend, although not statistically significant, towards less hearing trouble for higher-income groups.

Vision trouble refers to one's inability to see ordinary newsprint or recognize a friend across the street with or without lenses, depending on whether they are usually worn. More than 45% of the total population wear lenses, with less than 4% reporting any vision trouble (Table 66). Age is an important factor since, for the elderly (65 years and over), the proportion wearing lenses increases to more than 93%, while more than 25% of the population report having trouble. Unlike hearing trouble, females tend to report vision trouble more frequently than males, especially for the case where lenses are worn. Income is more strongly related to vision trouble than hearing trouble since a significantly higher proportion of those in the fifth income quintile wears lenses, and almost twice as many people in the lowest income quintile report vision trouble as those in the highest quintile.

Activity limitation refers to an individual's major activity for most of the past 12 months and establishes whether one is limited in the kind or amount of activity one can do. Responses to the questionnaire items were categorized as "no limitation", "not limited in major activity but otherwise limited", "limited in major activity" and "cannot do major activity". Close to 12% of the total population experience some form of activity limitation (Table 67). Seven per cent of respondents report a limitation in their major activity while 2% of the population report a limitation other than in major activity, and another 2% are unable to perform their major activity. Although similar proportions of males and females have some form of activity limitation, a significantly larger proportion of females report the less serious forms of limitation, while males were more commonly unable to perform their major activity.

Of the working population aged 15-64, 8% have some form of activity limitation with 6% being limited in their major activity and 2% being otherwise limited (percents not shown in Table 67). Although these individuals are experiencing difficulty because of a health problem, they are able to work. Of the age group 15-64, 2% are inactive (not working or retired) because of health reasons, and more than two-thirds are males.

For those listing housework as their major activity, 16% of those in the age group 15-64 report some form of activity limitation, which appears unreasonably high at first glance. This group is composed almost entirely of females who, even if they are unable to be employed due to disability, list their major activity as housework rather than retired or not working, thus inflating the estimate of limitation for this group. When the elderly are included as well, the proportion reporting some form of limitation rises to 19% of the total listing housework as their major activity.

In the school category, approximately 4% report some form of activity limitation whereas, for babies and pre-school children, the corresponding proportion reporting some form of activity limitation is less than 2%.

Discussion

Although many different health problems were reported in the survey, it must be recognized that these are perceived problems and that more than half of them did not result in any selected health behaviours, such as health care utilization or disability. Important problems to consider are not so much those with high prevalence but those which result in the greatest burden in terms of consequences. When viewed in this way, the most prevalent health problems, in order, are hypertension, mental disorders, limb and joint disorders, skin disorders and arthritis and rheumatism. Most of these conditions are chronic or degenerative in nature.

For the most part, health problems, health care utilization and disability tend to follow a consistent pattern by age. That is, prevalence rates are higher in the first few years of life than for older children, adolescents and young adults, with almost exponential increases being exhibited for older adults and the elderly. The increased prevalence of health problems and disability for females is consistent with findings from other surveys as well as administrative data relating to health care utilization. This greater awareness of health problems and use of health services on the part of females does not necessarily indicate that they are less healthy than males.

Indicators of social class such as education and income reflect important differences in health status, not merely in terms of the overall prevalence of problems but, more importantly, with respect to the types of problems resulting in serious consequences. It is clear that people of lower-income groups and with lower levels of education do not enjoy the same level of health as those Canadians of higher social and economic status.

Comparisons with other data sources generally support the validity of estimates of health problems and disability from the Canada Health Survey. The United States National Health Interview Survey measures short and long-term disability in terms of the same concepts used in this survey.[3] Direct comparison is not encouraged because of methodological differences, however, Canadian estimates of disability are consistently slightly smaller than the corresponding American estimates. This is encouraging as the CHS methodology is more discriminating and should reflect slightly smaller estimates.

It was noted earlier (Table 58) that, allowing for the fact that there may be more than one problem reported per person, the major problems associated with severe disability (those classified as inactive for health reasons) are back, limb and joint disorders, arthritis and rheumatism, heart disease, mental disorders and hypertension. This list of conditions is consistent with the major causes of severe disability based on the number of disabled beneficiaries (aged 15-64) under public income support programs in 1979.[4] Ranked in order of the number of beneficiaries, the leading causes were arthritis and other conditions affecting the bones and joints, coronary and other heart conditions and chronic mental conditions.

Although methodology differs considerably, some basic comparisons can be made with the Canadian Sickness Survey,[5] carried out on a national sample of 10,000 households during 1950-51. Despite the 28 years intervening between the surveys, the overall level of prevalence of health problems and disability in the population has remained relatively stable. Major differences in the percentage occurrence of health problems are apparent, however, when age breakdowns are considered. While the prevalence of health problems appears to have increased slightly for the working age population (aged 15-64), the prevalence of health problems among children (aged 0-14) has declined by half and for the elderly (aged 65 +) risen by more than half. For both the young and the elderly, the prevalence of long term disability has remained constant. It is reasonable to assume that improvements in living conditions, diet, immunization and health services have contributed to the marked decline in ill-health among children. Among the aged, on the other hand, the population has almost doubled over the period reflecting a much higher survival rate among the elderly than in earlier years.

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1 *Health Interview Survey Procedures: 1957-1974,* Vital and Health Statistics, Series 1, Number 11, DHEW Publication No. (HRA) 75-1311, April 1975.

2 Although they were intended to be mutually exclusive and to represent separate conditions, 18% of respondents who reported at least one of these health problems also reported the other. There is no way to validate whether or not some back, limb or joint disorder was present independent of the arthritis reported, but the high frequencies for these categories suggest that a possible bias may exist. This should be kept in mind when interpreting the data on the frequency and distribution of health problems.

3 *Current Estimates from the Health Interview Survey: United States, 1978,* Vital and Health Statistics, Series 10, Number 130, DHEW Publication No. (PHS) 80-1551, November 1979.

4 *A Composite Picture of the Disabled in Canada,* Walker, C.B., McWhinnie, J.R., Department of National Health and Welfare, June 1980.

5 *Illness and Health Care in Canada; Canadian Sickness Survey, 1950-51,* prepared jointly by National Health and Welfare and the Dominion Bureau of Statistics. Catalogue No. 82-518.

TABLE 57. Prevalence of Health Problems by Age and Sex, by Type of Health Problem, Canada, 1978-79(1)

Type of health problem		All ages			Less than 15			15-64			65 and over		
		Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
		in thousands											
Total population(2)	**No.**	**23,023**	**11,417**	**11,606**	**5,531**	**2,833**	**2,699**	**15,473**	**7,697**	**7,775**	**2,019**	**887**	**1,132**
	%	**100.0**	**49.6**	**50.4**	**24.0**	**12.3**	**11.7**	**67.2**	**33.4**	**33.8**	**8.8**	**3.9**	**4.9**
At least one problem	No.	12,510	5,714	6,796	1,928	1,005	924	8,853	3,968	4,885	1,729	742	987
	%	100.0	45.7	54.3	15.4	8.0	7.4	70.8	31.7	39.0	13.8	5.9	7.9
No problem	No.	10,513	5,703	4,811	3,603	1,828	1,775	6,620	3,730	2,890	290	145	148
	%	100.0	54.2	45.8	34.3	17.4	16.9	63.0	35.5	27.5	2.8	1.4	1.4
Health problems:													
Total problems	**No.**	**25,526**	**10,559**	**14,967**	**2,634**	**1,385**	**1,249**	**17,692**	**7,177**	**10,515**	**5,200**	**1,997**	**3,203**
	%	**100.0**	**41.4**	**58.6**	**10.3**	**5.4**	**4.9**	**69.3**	**28.1**	**41.2**	**20.4**	**7.8**	**12.5**
Mental disorders	No.	1,000	363	637	53	39	14	697	249	448	249	75	174
	%	100.0	36.3	63.7	5.4	3.9	1.4	69.7	24.9	44.9	24.9	7.5	17.4
Diabetes	No.	379	149	230	..	..	..	237	102	135	135	45	90
	%	100.0	39.2	60.8	..	..	..	62.5	27.0	35.5	35.6	11.8	23.8
Thyroid disorders	No.	297	41	256	..	..	-	230	24	206	65	15	51
	%	100.0	13.7	86.3	..	..	-	77.4	8.1	69.3	22.0	5.0	17.0
Anemia	No.	417	52	366	33	..	16	307	24	283	77	11	66
	%	100.0	12.4	87.6	8.0	..	3.9	73.6	5.6	67.9	18.4	2.7	15.8
Headache	No.	1,102	292	809	40	19	21	984	253	732	77	21	57
	%	100.0	26.5	73.5	3.6	1.7	1.9	89.3	22.9	66.4	7.0	1.9	5.1
Sight disorders	No.	1,200	449	750	96	45	51	786	304	482	318	100	217
	%	100.0	37.5	62.5	8.0	3.7	4.3	65.5	25.4	40.1	26.5	8.4	18.1
Hearing disorders	No.	1,028	607	422	127	66	62	549	327	222	352	214	138
	%	100.0	59.0	41.0	12.4	6.4	6.0	53.4	31.8	21.6	34.2	20.8	13.4
Hypertension	No.	1,551	588	963	..	..	..	970	411	559	579	176	403
	%	100.0	37.9	62.1	..	..	..	62.6	26.5	36.1	37.4	11.4	26.0
Heart disease	No.	847	429	418	..	..	7	436	237	199	394	182	212
	%	100.0	50.6	49.4	..	..	.8	51.5	28.0	23.5	46.5	21.5	25.0
Acute respiratory	No.	781	355	426	320	164	156	428	177	251	33	14	19
	%	100.0	45.4	54.6	41.0	21.0	20.0	54.8	22.6	32.1	4.2	1.8	2.4
Influenza	No.	680	296	384	204	100	104	441	189	252	35	7	27
	%	100.0	43.6	56.4	30.0	14.7	15.3	64.8	27.8	37.1	5.1	1.1	4.0
Bronchitis and emphysema	No.	562	279	283	70	42	27	364	158	207	128	79	49
	%	100.0	49.6	50.4	12.4	7.5	4.9	64.8	28.1	36.7	22.8	14.0	8.8
Asthma	No.	547	290	257	141	97	44	327	148	179	79	45	34
	%	100.0	53.1	46.9	25.7	17.7	8.1	59.8	27.1	32.7	14.5	8.3	6.2
Hay fever and other allergies	No.	2,157	987	1,170	390	222	168	1,650	729	921	117	36	81
	%	100.0	45.8	54.2	18.1	10.3	7.8	76.5	33.8	42.7	5.4	1.7	3.7
Dental problems	No.	1,697	739	958	246	104	142	1,267	552	715	184	83	101
	%	100.0	43.6	56.4	14.5	6.2	8.3	74.7	32.5	42.1	10.8	4.9	5.9
Gastric and duodenal ulcers	No.	482	282	199	..	..	..	398	232	166	79	46	33
	%	100.0	58.6	41.4	..	..	..	82.6	48.2	34.5	16.3	9.6	6.8
Digestive disorders	No.	687	286	401	45	26	19	434	178	256	209	83	126
	%	100.0	41.7	58.3	6.5	3.7	2.8	63.1	25.9	37.2	30.4	12.0	18.4
Skin disorders	No.	2,064	756	1,308	426	202	224	1,495	497	998	143	57	86
	%	100.0	36.6	63.4	20.6	9.8	10.9	72.4	24.1	48.4	6.9	2.8	4.2
Arthritis and rheumatism	No.	2,440	844	1,596	13	6	..	1,571	550	1,021	856	288	568
	%	100.0	34.6	65.4	.5	.2	..	64.4	22.5	41.8	35.1	11.8	23.3
Limb and joint disorders	No.	2,334	1,182	1,153	70	39	31	1,833	952	881	432	192	240
	%	100.0	50.6	49.4	3.0	1.7	1.3	78.5	40.8	37.8	18.5	8.2	10.3
Trauma	No.	616	349	268	73	46	27	471	281	190	72	22	51
	%	100.0	56.6	43.4	11.8	7.5	4.3	76.4	45.6	30.8	11.8	3.5	8.2
Other	No.	2,660	945	1,715	254	134	121	1,818	605	1,213	588	207	381
	%	100.0	35.5	64.5	9.6	5.0	4.5	68.4	22.7	45.6	22.1	7.8	14.3

(1) "Prevalence" refers to existing conditions reported at the time of the interview and therefore includes both acute and chronic conditions.
(2) The top portion of the table shows the proportion of the population experiencing health problems while the bottom shows the number of health problems reported, classified by type of problem.

TABLE 58. Prevalence of Health Problems by Major Activity, by Type of Health Problem, Canada, 1978-79(1)

Type of health problem		Total	Working	House-keeping	School	Inactive/ Health	Inactive/ Other	Baby/ Child
		in thousands						
Total population(2)	**No.**	**23,023**	**9,114**	**4,182**	**5,633**	**486**	**1,535**	**2,072**
	%	**100.0**	**39.6**	**18.2**	**24.5**	**2.1**	**6.7**	**9.0**
At least one problem	No.	12,510	5,023	3,019	2,196	486	1,119	667
	%	100.0	40.2	24.1	17.6	3.9	8.9	5.3
No problem	No.	10,513	4,091	1,164	3,437	-	417	1,405
	%	100.0	38.9	11.1	32.7	-	4.0	13.4
Health problems:								
Total problems	**No.**	**25,526**	**9,259**	**7,532**	**3,161**	**1,835**	**2,886**	**853**
	%	**100.0**	**36.3**	**29.5**	**12.4**	**7.2**	**11.3**	**3.3**
Mental disorders	No.	1,000	264	391	81	118	138	..
	%	100.0	26.4	39.1	8.1	11.8	13.8	..
Diabetes	No.	379	112	146	11	36	74	-
	%	100.0	29.6	38.5	3.0	9.5	19.4	-
Thyroid disorders	No.	297	94	147	6	19	30	..
	%	100.0	31.6	49.5	1.9	6.3	10.1	..
Anemia	No.	417	106	216	28	24	24	..
	%	100.0	25.3	51.9	6.6	5.8	5.6	..
Headache	No.	1,102	488	433	97	46	37	-
	%	100.0	44.3	39.3	8.8	4.2	3.4	-
Sight disorders	No.	1,200	395	398	122	82	177	..
	%	100.0	32.9	33.2	10.1	6.9	14.8	..
Hearing disorders	No.	1,028	352	193	112	103	221	47
	%	100.0	34.2	18.8	10.9	10.0	21.5	4.6
Hypertension	No.	1,551	506	638	10	118	278	-
	%	100.0	32.6	41.2	.7	7.6	17.9	-
Heart disease	No.	847	215	249	14	156	205	7
	%	100.0	25.5	29.4	1.7	18.4	24.3	.9
Acute respiratory	No.	781	229	114	251	7	26	152
	%	100.0	29.4	14.7	32.1	.9	3.4	19.5
Influenza	No.	680	252	135	176	13	21	81
	%	100.0	37.1	19.9	25.9	2.0	3.1	11.9
Bronchitis and emphysema	No.	562	190	130	62	62	92	26
	%	100.0	33.7	23.1	11.1	11.0	16.3	4.6
Asthma	No.	547	162	112	151	27	59	35
	%	100.0	29.7	20.5	27.6	4.9	10.8	6.4
Hay fever and other allergies	No.	2,157	943	430	562	40	95	87
	%	100.0	43.7	19.9	26.1	1.9	4.4	4.0
Dental problems	No.	1,697	721	402	299	79	126	69
	%	100.0	42.5	23.7	17.6	4.7	7.5	4.1
Gastric and duodenal ulcers	No.	482	264	105	16	40	56	-
	%	100.0	54.8	21.8	3.4	8.3	11.7	-
Digestive disorders	No.	687	230	239	35	58	110	15
	%	100.0	33.5	34.7	5.1	8.5	16.0	2.2
Skin disorders	No.	2,064	714	484	543	55	103	166
	%	100.0	34.6	23.4	26.3	2.7	5.0	8.0
Arthritis and rheumatism	No.	2,440	770	1,010	34	193	430	..
	%	100.0	31.5	41.4	1.4	7.9	17.6	..
Limb and joint disorders	No.	2,334	1,119	600	133	241	229	13
	%	100.0	47.9	25.7	5.7	10.3	9.8	.6
Trauma	No.	616	277	106	127	47	47	13
	%	100.0	44.9	17.3	20.5	7.7	7.6	2.1
Other	No.	2,660	855	852	290	271	307	86
	%	100.0	32.1	32.0	10.9	10.2	11.5	3.2

(1) "Prevalence" refers to existing conditions reported at the time of the interview and therefore includes both acute and chronic conditions.
(2) The top portion of the table shows the proportion of the population experiencing health problems while the bottom shows the number of health problems reported, classified by type of problem.

TABLE 59. Prevalence of Health Problems by Economic Family Income, by Type of Health Problem, Canada, 1978-79(1)

Type of health problem		Total	First quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile	Income unknown
		in thousands						
Total population(2)	**No.**	**23,023**	**4,335**	**4,334**	**4,335**	**4,335**	**4,335**	**1,349**
	%	**100.0**	**18.8**	**18.8**	**18.8**	**18.8**	**18.8**	**5.9**
At least one problem	No.	12,510	2,543	2,265	2,196	2,367	2,532	607
	%	100.0	20.3	18.1	17.6	18.9	20.2	4.9
No problem	No.	10,513	1,792	2,069	2,140	1,968	1,803	742
	%	100.0	17.0	19.7	20.4	18.7	17.2	7.1
Health problems								
Total problems	**No.**	**25,526**	**6,079**	**4,584**	**4,336**	**4,518**	**4,939**	**1,070**
	%	**100.0**	**23.8**	**18.0**	**17.0**	**17.7**	**19.3**	**4.2**
Mental disorders	No.	1,000	333	194	139	134	159	41
	%	100.0	33.3	19.4	13.9	13.4	15.9	4.1
Diabetes	No.	379	104	79	56	57	72	..
	%	100.0	27.4	21.0	14.7	15.0	19.1	..
Thyroid disorders	No.	297	68	54	48	48	60	20
	%	100.0	22.9	18.2	16.1	16.1	20.1	6.6
Anemia	No.	417	104	88	67	74	63	22
	%	100.0	24.8	21.0	16.0	17.8	15.2	5.2
Headache	No.	1,102	230	184	218	202	219	49
	%	100.0	20.9	16.7	19.8	18.3	19.9	4.4
Sight disorders	No.	1,200	365	218	182	190	207	38
	%	100.0	30.4	18.2	15.2	15.9	17.2	3.1
Hearing disorders	No.	1,028	270	171	203	166	172	45
	%	100.0	26.3	16.7	19.8	16.2	16.8	4.3
Hypertension	No.	1,551	414	271	246	239	295	86
	%	100.0	26.7	17.5	15.9	15.4	19.0	5.5
Heart disease	No.	847	279	155	135	118	136	24
	%	100.0	33.0	18.3	16.0	13.9	16.0	2.9
Acute respiratory	No.	781	164	159	164	117	131	46
	%	100.0	21.0	20.4	21.1	15.0	16.7	5.9
Influenza	No.	680	180	107	127	125	109	32
	%	100.0	26.5	15.8	18.6	18.3	16.1	4.7
Bronchitis and emphysema	No.	562	172	93	95	91	88	23
	%	100.0	30.6	16.5	16.9	16.2	15.6	4.1
Asthma	No.	547	142	115	79	98	93	20
	%	100.0	25.9	21.0	14.4	18.0	17.0	3.6
Hay fever and other allergies	No.	2,157	312	313	361	468	600	103
	%	100.0	14.5	14.5	16.7	21.7	27.8	4.8
Dental problems	No.	1,697	413	327	317	283	294	63
	%	100.0	24.3	19.3	18.7	16.7	17.3	3.7
Gastric and duodenal ulcers	No.	482	119	70	90	94	86	23
	%	100.0	24.7	14.5	18.6	19.6	17.8	4.8
Digestive disorders	No.	687	180	123	113	102	157	..
	%	100.0	26.2	17.9	16.5	14.8	22.9	..
Skin disorders	No.	2,064	351	374	332	481	468	78
	%	100.0	17.0	18.1	16.1	22.3	22.7	3.8
Arthritis and rheumatism	No.	2,440	663	412	397	425	443	100
	%	100.0	27.2	16.9	16.3	17.4	18.1	4.1
Limb and joint disorders	No.	2,334	512	409	385	411	494	123
	%	100.0	21.9	17.5	16.5	17.6	21.1	5.3
Trauma	No.	616	94	116	124	133	125	24
	%	100.0	15.3	18.8	20.2	21.6	20.2	3.9
Other	No.	2,658	610	552	458	482	468	87
	%	100.0	22.9	20.8	17.2	18.1	17.6	3.3

(1) "Prevalence" refers to existing conditions reported at the time of the interview and therefore includes both acute and chronic conditions.
(2) The top portion of the table shows the proportion of the population experiencing health problems while the bottom shows the number of health problems reported, classified by type of problem.

TABLE 60. Prevalence of Health Problems by Selected Health Behaviour, by Type of Health Problem, Canada, 1978-79(1)

Type of health problem		Total population			Disability days		Consultations		Drug use		Activity limitation		None of these	
		Both sexes	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
		in thousands												
Total population(2)	**No.**	**23,023**	**11,417**	**11,606**	**1,111**	**1,654**	**2,086**	**3,031**	**4,658**	**6,363**	**1,250**	**1,416**	**5,405**	**3,989**
	%	**100.0**	**49.6**	**50.4**	**4.8**	**7.2**	**9.1**	**13.2**	**20.2**	**27.6**	**5.4**	**6.2**	**23.5**	**17.3**
At least one problem	No.	12,510	5,714	6,796	1,110	1,647	1,723	2,556	3,254	4,776	1,250	1,416	1,359	1,049
	%	100.0	45.7	54.3	8.9	13.2	13.8	20.4	26.0	38.2	10.0	11.3	10.9	8.4
No problem	No.	10,513	5,703	4,811	..	..	363	475	1,404	1,587	-	-	4,046	2,940
	%	100.0	54.2	45.8	..	..	3.5	4.5	13.4	15.1	-	-	38.5	28.0
Health problems:														
Total problems	**No.**	**25,526**	**10,559**	**14,967**	**1,115**	**1,671**	**1,390**	**1,964**	**2,474**	**4,299**	**1,247**	**1,415**	**5,724**	**7,702**
	%	**100.0**	**41.4**	**58.6**	**4.4**	**6.5**	**5.4**	**7.7**	**9.7**	**16.8**	**4.9**	**5.5**	**22.4**	**30.2**
Mental disorders	No.	1,000	363	637	10	53	43	72	235	501	49	77	70	74
	%	100.0	36.3	63.7	1.0	5.3	4.4	7.2	23.5	50.1	4.9	7.7	7.1	7.4
Diabetes	No.	379	149	230	..	..	..	18	59	104	15	25	79	107
	%	100.0	39.2	60.8	..	..	..	4.8	15.6	27.3	3.9	6.7	20.9	28.3
Thyroid disorders	No.	297	41	256	-	..	-	14	20	119	1	..	21	129
	%	100.0	13.7	86.3	-	..	-	4.8	6.8	40.2	.2	..	6.9	43.3
Anemia	No.	417	52	366	-	..	..	17	11	120	..	13	37	226
	%	100.0	12.4	87.6	-	..	..	4.2	2.8	28.7	..	3.2	8.9	54.1
Headache	No.	1,102	292	809	18	71	15	31	106	232	..	11	162	516
	%	100.0	26.5	73.5	1.6	6.4	1.3	2.8	9.6	21.1	..	1.0	14.7	46.9
Sight disorders	No.	1,200	449	750	..	..	42	48	20	27	34	38	360	646
	%	100.0	37.5	62.5	..	..	3.5	4.0	1.7	2.2	2.9	3.1	30.0	53.8
Hearing disorders	No.	1,028	607	422	24	28	48	56	22	16	18	16	527	335
	%	100.0	59.0	41.0	2.4	2.7	4.6	5.5	2.1	1.6	1.7	1.5	51.2	32.6
Hypertension	No.	1,551	588	963	..	32	..	90	355	683	30	46	214	254
	%	100.0	37.9	62.1	..	2.0	..	5.8	22.9	44.1	1.9	3.0	13.8	16.4
Heart disease	No.	847	429	418	55	50	52	42	240	234	207	141	120	125
	%	100.0	50.6	49.4	6.5	5.9	6.1	5.0	28.4	27.7	24.5	16.7	14.1	14.8
Acute respiratory	No.	781	355	426	238	257	106	168	93	117	..	..	-	-
	%	100.0	45.4	54.6	30.5	33.0	13.6	21.5	11.9	15.0	..	..	-	-
Influenza	No.	680	296	384	250	326	90	112	30	69	..	..	-	-
	%	100.0	43.6	56.4	36.8	48.0	13.2	16.5	4.4	10.1	..	..	-	-
Bronchitis and emphysema	No.	562	279	283	23	18	16	22	40	25	39	16	205	230
	%	100.0	49.6	50.4	4.1	3.1	2.9	3.9	7.2	4.4	7.0	2.9	36.5	40.9
Asthma	No.	547	290	257	11	20	14	17	40	56	51	46	206	177
	%	100.0	53.1	46.9	2.1	3.6	2.6	3.1	7.4	10.2	9.3	8.4	37.7	32.3
Hay fever and other allergies	No.	2,157	987	1,170	5	12	67	54	46	48	19	9	862	1,064
	%	100.0	45.8	54.2	.2	.5	3.1	2.5	2.1	2.2	.9	.4	40.0	49.3
Dental problems	No.	1,897	739	958	18	25	143	213	14	13	-	0	577	730
	%	100.0	43.6	56.4	1.0	1.5	8.4	12.6	.8	.8	-	.0	34.0	43.0
Gastric and duodenal ulcers	No.	482	282	199	..	14	..	10	69	58	12	..	193	131
	%	100.0	58.6	41.4	..	2.9	..	2.1	14.3	12.1	2.5	..	40.0	27.1
Digestive disorders	No.	687	286	401	43	62	47	47	198	305	31	16	..	18
	%	100.0	41.7	58.3	6.3	9.0	6.9	6.8	28.8	44.4	4.5	2.4	..	2.6
Skin disorders	No.	2,064	756	1,308	..	17	45	100	292	460	..	..	430	774
	%	100.0	36.6	63.4	..	.8	2.2	4.9	14.1	22.3	..	..	20.8	37.5
Arthritis and rheumatism	No.	2,440	844	1,596	22	69	22	44	126	303	89	189	664	1,187
	%	100.0	34.6	65.4	.9	2.8	.9	1.8	5.2	12.4	3.7	7.7	27.2	48.7
Limb and joint disorders	No.	2,334	1,182	1,153	69	88	139	156	77	104	258	258	770	696
	%	100.0	50.6	49.4	3.0	3.8	6.0	6.7	3.3	4.5	11.0	11.0	33.0	29.8
Trauma	No.	616	349	268	111	90	172	122	33	32	117	98	52	39
	%	100.0	56.6	43.4	17.9	14.6	28.0	19.8	5.3	5.2	19.0	15.9	8.5	6.3
Other	No.	2,660	945	1,715	160	413	253	510	347	674	248	395	163	246
	%	100.0	35.5	64.5	6.0	15.5	9.5	19.2	13.0	25.4	9.3	14.9	6.1	9.2

(1) "Prevalence" refers to existing conditions reported at the time of the interview and therefore includes both acute and chronic conditions.
(2) The top portion of the table shows the proportion of the population experiencing health problems while the bottom shows the number of health problems reported, classified by type of problem.

TABLE 61. Population, Annual Bed-Days and Annual Bed-Days per person, by Age and Sex, Canada, 1978-79

	Total population	Annual bed-days(1)	Annual bed-days per person
	in thousands		
All ages:			
Both sexes	**23,023**	**121,071**	**5.26**
Male	**11,417**	**48,381**	**4.24**
Female	**11,606**	**72,690**	**6.26**
Less than 15:			
Total	5,531	20,007	3.62
Male	2,833	9,998	3.53
Female	2,699	10,009	3.71
15-64:			
Total	15,473	74,408	4.81
Male	7,697	29,027	3.77
Female	7,775	45,381	5.84
65 and over:			
Total	2,019	26,656	13.20
Male	887	9,355	10.55
Female	1,132	17,300	15.28

(1) For derivation, see Appendix III.

TABLE 62. Population, Annual Major Activity-Loss Days and Annual Major Activity-Loss Days per Person, by Age, Major Activity and Sex, Canada, 1978-79

Major activity	Total population	Annual major activity-loss days(1)	Annual major activity-loss days per person
	in thousands		
All ages:			
Total	**16,652**	**114,165**	**6.86**
Male	**7,683**	**30,977**	**4.03**
Female	**8,968**	**83,188**	**9.28**
Working:			
Total	**8,669**	**37,313**	**4.30**
Male	**5,664**	**20,044**	**3.54**
Female	**3,005**	**17,269**	**5.75**
Housework:			
Total	**4,141**	**53,178**	**12.84**
Male	**31**	**..**	**..**
Female	**4,110**	**52,572**	**12.79**
School:			
Total	**3,841**	**23,674**	**6.16**
Male	**1,988**	**10,327**	**5.19**
Female	**1,853**	**13,348**	**7.20**
Less than 15:			
Total	2,365	15,377	6.50
Male	1,201	6,077	5.06
Female	1,164	9,300	7.99
School:			
Total	2,361	15,377	6.51
Male	1,198	6,077	5.07
Female	1,164	9,300	7.99
15-64:			
Total	13,454	86,387	6.42
Male	6,379	23,649	3.74
Female	7,076	62,538	8.84
Working:			
Total	8,545	36,211	4.24
Male	5,562	18,993	3.41
Female	2,982	17,218	5.77
Housework:			
Total	3,431	41,879	12.20
Male	27	..	..
Female	3,404	41,273	12.12
School:			
Total	1,478	8,297	5.61
Male	789	4,250	5.38
Female	689	4,047	5.87
65 and over:			
Total	832	12,401	14.91
Male	104	1,051	10.13
Female	728	11,350	15.59
Working:			
Total	120	1,102	9.15
Male	99	..	..
Female	22	..	..
Housework:			
Total	710	11,299	15.92
Male	4	-	-
Female	706	11,299	16.00
School:			
Total	1	-	-
Male	1	-	-
Female	-	-	-

(1) For derivation, see Appendix III.

TABLE 63. Population, Annual Disability Days and Annual Disability Days per Person by Sex, by Age and Education, Canada, 1978-79

Education	Total population			Annual disability days(1)			Annual disability days per person		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
	in thousands								
All ages:									
Total	**23,023**	**11,417**	**11,606**	**362,211**	**142,556**	**219,655**	**15.73**	**12.49**	**18.93**
Baby/Child	**2,385**	**1,227**	**1,158**	**23,827**	**11,790**	**12,037**	**9.99**	**9.61**	**10.39**
Secondary or less	**15,950**	**7,714**	**8,236**	**284,136**	**110,027**	**174,109**	**17.81**	**14.26**	**21.14**
Some post-secondary	**1,448**	**771**	**677**	**16,266**	**5,085**	**11,181**	**11.23**	**6.59**	**16.52**
Degree or diploma	**3,037**	**1,600**	**1,436**	**35,109**	**13,525**	**21,585**	**11.56**	**8.45**	**15.03**
Education unknown	**203**	**104**	**99**	**2,873**	**2,129**	..	**14.15**	**20.49**	..
Less than 15:									
Total	5,531	2,833	2,699	48,286	24,458	23,828	8.73	8.63	8.83
Baby/Child	2,385	1,227	1,158	23,827	11,790	12,037	9.99	9.61	10.39
Secondary or less	3,117	1,588	1,529	24,337	12,573	11,765	7.81	7.91	7.70
Education unknown	29	17	12	..	..	..	..	..	..
15-64:									
Total	15,473	7,697	7,775	243,251	91,332	151,919	15.72	11.87	19.54
Secondary or less	11,106	5,359	5,747	195,505	72,870	122,636	17.60	13.60	21.34
Some post-secondary	1,367	744	624	14,333	4,733	9,600	10.48	6.36	15.40
Degree or diploma	2,836	1,512	1,324	30,771	11,806	18,965	10.85	7.81	14.32
Education unknown	163	63	81	..	..	..	..	..	..
65 and over:									
Total	2,019	887	1,132	70,675	26,766	43,908	35.00	30.19	38.78
Secondary or less	1,727	766	961	64,294	24,585	39,709	37.23	32.09	41.32
Some post-secondary	81	28	53	..	..	..	..	..	..
Degree or diploma	200	88	112	..	..	..	..	..	..
Education unknown	10	4	6	..	..	..	..	..	..

(1) For derivation, see Appendix III.

TABLE 64. Population, Annual Disability Days and Annual Disability Days per Person by Sex, by Age, Canada and Regions, 1978-79

	Total population			Annual disability days(1)			Annual disability days per person		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
	in thousands								
All ages:									
Canada	**23,023**	**11,417**	**11,606**	**362,211**	**142,556**	**219,655**	**15.73**	**12.49**	**18.93**
Atlantic region	**2,191**	**1,092**	**1,098**	**38,148**	**15,023**	**23,125**	**17.41**	**13.75**	**21.06**
Quebec	**6,198**	**3,059**	**3,139**	**90,483**	**31,960**	**58,524**	**14.60**	**10.45**	**18.64**
Ontario	**8,336**	**4,121**	**4,215**	**129,009**	**53,284**	**75,725**	**15.48**	**12.93**	**17.96**
Prairie region	**3,820**	**1,914**	**1,905**	**53,587**	**22,479**	**31,108**	**14.03**	**11.74**	**16.33**
British Columbia	**2,479**	**1,230**	**1,248**	**50,984**	**19,809**	**31,175**	**20.57**	**16.10**	**24.97**
Less than 15:									
Canada	5,531	2,833	2,699	48,286	24,458	23,828	8.73	8.63	8.83
Atlantic region	605	311	294	5,248	2,603	2,645	8.67	8.37	8.99
Quebec	1,439	738	702	9,111	4,505	4,606	6.33	6.11	6.56
Ontario	1,964	1,006	958	16,234	9,117	7,117	8.27	9.06	7.43
Prairie region	963	492	471	11,600	5,546	6,054	12.05	11.27	12.86
British Columbia	560	286	274	6,094	2,688	3,406	10.88	9.40	12.42
15-64:									
Canada	15,473	7,697	7,775	243,251	91,332	151,919	15.72	11.87	19.54
Atlantic region	1,390	693	697	24,983	9,309	15,674	17.97	13.43	22.47
Quebec	4,268	2,111	2,156	63,968	20,641	43,327	14.99	9.78	20.09
Ontario	5,631	2,799	2,832	89,440	35,058	54,382	15.86	12.52	19.20
Prairie region	2,516	1,264	1,252	31,706	12,757	18,949	12.60	10.10	15.13
British Columbia	1,667	830	837	33,155	13,568	19,587	19.89	16.34	23.41
65 and over:									
Canada	2,019	887	1,132	70,675	26,766	43,908	35.00	30.19	38.78
Atlantic region	195	88	106	7,918	3,112	4,806	40.65	35.23	45.15
Quebec	491	210	281	17,405	6,815	10,590	35.46	32.48	37.68
Ontario	741	316	426	23,335	9,109	14,226	31.48	28.86	33.43
Prairie region	341	159	182	10,281	4,177	6,104	30.16	26.29	33.54
British Columbia	251	114	137	11,735	3,553	8,182	46.70	31.16	59.60

(1) For derivation, see Appendix III.

TABLE 65. Population by Hearing Trouble, by Age and Sex, Canada, 1978-79

		Hearing trouble					
		Total	No trouble		Trouble		Unknown
			Without aid	With aid	Without aid	With aid	
		in thousands					
All ages:							
Both sexes	**No.**	**23,023**	**22,011**	**113**	**800**	**92**	..
	%	**100.0**	**95.6**	**.5**	**3.5**	**.4**	..
Male	**No.**	**11,417**	**10,810**	**57**	**498**	**49**	..
	%	**100.0**	**94.7**	**.5**	**4.4**	**.4**	..
Female	**No.**	**11,606**	**11,201**	**56**	**302**	**44**	..
	%	**100.0**	**96.5**	**.5**	**2.6**	**.4**	..
Less than 15:							
Male	No.	2,833	2,798	..	31	..	-
	%	100.0	98.8	..	1.1	..	-
Female	No.	2,699	2,665	..	26	..	..
	%	100.0	98.7	..	1.0	..	..
15-64:							
Male	No.	7,697	7,369	24	286	18	-
	%	100.0	95.7	.3	3.7	.2	-
Female	No.	7,775	7,581	12	171	11	-
	%	100.0	97.5	.2	2.2	.1	-
65 and over:							
Male	No.	887	644	32	182	30	-
	%	100.0	72.6	3.6	20.5	3.4	-
Female	No.	1,132	955	40	105	30	..
	%	100.0	84.3	3.6	9.3	2.6	..

TABLE 66. Population by Vision Trouble, by Economic Family Income Quintiles and Sex, Canada, 1978-79

		Vision trouble					
		Total	No trouble		Trouble		Unknown
			Without lenses	With lenses	Without lenses	With lenses	
		in thousands					
Economic family income quintiles:							
Both sexes	**No.**	**23,023**	**12,071**	**9,718**	**308**	**752**	**174**
	%	**100.0**	**52.4**	**42.2**	**1.3**	**3.3**	**.8**
Male	**No.**	**11,417**	**6,599**	**4,339**	**138**	**241**	**99**
	%	**100.0**	**57.8**	**38.0**	**1.2**	**2.1**	**.9**
Female	**No.**	**11,606**	**5,471**	**5,379**	**170**	**510**	**75**
	%	**100.0**	**47.1**	**46.3**	**1.5**	**4.4**	**.6**
First quintile:							
Total	No.	4,335	2,289	1,686	79	262	18
	%	100.0	52.8	38.9	1.8	6.1	.4
Male	No.	1,994	1,218	659	35	72	--
	%	100.0	61.1	33.1	1.7	3.6	--
Female	No.	2,341	1,071	1,026	45	190	--
	%	100.0	45.7	43.8	1.9	8.1	--
Second quintile:							
Total	No.	4,334	2,531	1,591	72	117	24
	%	100.0	58.4	36.7	1.7	2.7	.5
Male	No.	2,113	1,368	664	31	35	--
	%	100.0	64.8	31.4	1.5	1.7	--
Female	No.	2,221	1,163	927	41	81	--
	%	100.0	52.3	41.7	1.9	3.7	--
Third quintile:							
Total	No.	4,335	2,523	1,624	43	116	30
	%	100.0	58.2	37.5	1.0	2.7	.7
Male	No.	2,126	1,319	738	21	34	--
	%	100.0	62.0	34.7	1.0	1.6	--
Female	No.	2,209	1,204	886	22	82	16
	%	100.0	54.5	40.1	1.0	3.7	.7
Fourth quintile:							
Total	No.	4,335	2,234	1,909	63	99	30
	%	100.0	51.5	44.0	1.5	2.3	.7
Male	No.	2,151	1,220	857	24	28	22
	%	100.0	56.7	39.8	1.1	1.3	1.0
Female	No.	2,184	1,013	1,052	39	71	--
	%	100.0	46.4	48.2	1.8	3.3	--
Fifth quintile:							
Total	No.	4,335	1,794	2,336	36	144	26
	%	100.0	41.4	53.9	.8	3.3	.6
Male	No.	2,306	1,059	1,143	23	65	16
	%	100.0	45.9	49.6	1.0	2.8	.7
Female	No.	2,029	735	1,193	--	79	--
	%	100.0	36.2	58.8	--	3.9	--
Unknown:							
Total	No.	1,349	700	572	16	--	47
	%	100.0	51.9	42.4	1.2	--	3.5
Male	No.	727	415	277	--	--	23
	%	100.0	57.1	38.1	--	--	3.1
Female	No.	622	285	295	--	--	24
	%	100.0	45.8	47.4	--	--	3.9

TABLE 67. Population by Age and Sex, by Major Activity and Activity Limitation, Canada, 1978-79(1)

Activity limitation		Age groups											
		All ages			Less than 15			15-64			65 and over		
		Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
		in thousands											
Major activity:													
Total	**No.**	**23,023**	**11,417**	**11,606**	**5,531**	**2,833**	**2,699**	**15,473**	**7,697**	**7,775**	**2,019**	**887**	**1,132**
	%	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
No limitation	**No.**	**20,358**	**10,167**	**10,190**	**5,376**	**2,736**	**2,639**	**13,734**	**6,882**	**6,852**	**1,248**	**549**	**699**
	%	**88.4**	**89.1**	**87.8**	**97.2**	**96.6**	**97.8**	**88.8**	**89.4**	**88.1**	**61.8**	**61.9**	**61.7**
Some limitation	**No.**	**509**	**208**	**300**	**50**	**30**	**21**	**393**	**160**	**233**	**65**	**19**	**46**
	%	**2.2**	**1.8**	**2.6**	**.9**	**1.1**	**.8**	**2.5**	**2.1**	**3.0**	**3.2**	**2.1**	**4.1**
Major activity limited	**No.**	**1,670**	**690**	**981**	**105**	**67**	**39**	**1,035**	**426**	**610**	**530**	**198**	**332**
	%	**7.3**	**6.0**	**8.4**	**1.9**	**2.4**	**1.4**	**6.7**	**5.5**	**7.8**	**26.2**	**22.3**	**29.3**
Cannot do major activity	**No.**	**486**	**351**	**135**	--	-	--	**310**	**230**	**80**	**177**	**122**	**55**
	%	**2.1**	**3.1**	**1.2**	--	-	--	**2.0**	**3.0**	**1.0**	**8.7**	**13.7**	**4.9**
Working:													
Total	No.	9,114	6,032	3,082	-	-	-	8,968	5,913	3,055	146	119	27
	%	39.6	52.8	26.6	-	-	-	58.0	76.8	39.3	7.2	13.4	2.4
No limitation	No.	6,374	5,518	2,856	-	-	-	8,264	5,429	2,835	110	89	21
	%	36.4	48.3	24.6	-	-	-	53.4	70.5	36.5	5.4	10.1	1.8
Some limitation	No.	211	137	73	-	-	-	205	132	72	--	--	1
	%	9	1.2	.6	-	-	-	1.3	1.7	.9	--	--	.1
Major activity limited	No.	529	376	153	-	-	-	499	352	148	30	24	--
	%	2.3	3.3	1.3	-	-	-	3.2	4.6	1.9	1.5	2.8	--
Housework:													
Total	No.	4,182	23	4,160	-	-	-	3,455	17	3,438	727	--	722
	%	18.2	.2	35.8	-	-	-	22.3	.2	44.2	36.0	--	63.8
No limitation	No.	3,379	20	3,359	-	-	-	2,896	--	2,881	482	--	478
	%	14.7	.2	28.9	-	-	-	18.7	--	37.1	23.9	--	42.2
Some limitation	No.	169	-	169	-	-	-	133	-	133	36	-	36
	%	.7	-	1.5	-	-	-	.9	-	1.7	1.8	-	3.2
Major activity limited	No.	635	--	632	-	-	-	426	--	424	209	--	208
	%	2.8	--	5.4	-	-	-	2.8	--	5.5	10.3	--	18.4
School:													
Total	No.	5,633	2,904	2,730	3,448	1,759	1,689	2,185	1,145	1,041	-	-	-
	%	24.5	25.4	23.5	62.3	62.1	62.8	14.1	14.9	13.4	-	-	-
No limitation	No.	5,433	2,796	2,637	3,328	1,684	1,643	2,105	1,111	994	-	-	-
	%	23.6	24.5	22.7	60.2	59.5	60.9	13.6	14.4	12.8	-	-	-
Some limitation	No.	90	46	44	44	26	18	45	20	26	-	-	-
	%	.4	4	.4	.8	.9	.7	.3	.3	.3	-	-	-
Major activity limited	No.	111	62	49	76	48	28	35	--	21	-	-	-
	%	.5	.5	.4	1.4	1.7	1.0	.2	--	.3	-	-	-
Inactive/Health:													
Total	No.	486	351	135	--	-	--	310	230	80	177	122	55
	%	2.1	3.1	1.2	--	-	--	2.0	3.0	1.0	8.7	13.7	4.9
Cannot do major activity	No.	486	351	135	--	-	--	310	230	80	177	122	55
	%	2.1	3.1	1.2	--	-	--	2.0	3.0	1.0	8.7	13.7	4.9
Inactive/Other:													
Total	No.	1,535	1,042	493	--	--	--	554	392	162	970	641	328
	%	6.7	9.1	4.2	--	--	--	3.6	5.1	2.1	48.0	72.3	29.0
No limitation	No.	1,136	790	345	--	--	--	468	326	142	656	455	201
	%	4.9	6.9	3.0	--	--	--	3.0	4.2	1.8	32.5	51.4	17.7
Some limitation	No.	33	21	12	-	-	-	--	--	--	22	--	--
	%	.1	.2	.1	-	-	-	--	--	--	1.1	--	--
Major activity limited	No.	367	231	136	--	-	--	75	58	17	291	173	119
	%	1.6	2.0	1.2	--	-	--	.5	.6	.2	14.4	19.5	10.5
Baby/Child:													
Total	No.	2,072	1,066	1,006	2,072	1,066	1,006	-	-	-	-	-	-
	%	9.0	9.3	8.7	37.5	37.6	37.3	-	-	-	-	-	-
No limitation	No.	2,037	1,044	993	2,037	1,044	993	-	-	-	-	-	-
	%	8.8	9.1	8.6	36.8	36.8	36.8	-	-	-	-	-	-
Some limitation	No.	--	--	--	--	--	--	-	-	-	-	-	-
	%	--	--	--	--	--	--	-	-	-	-	-	-
Major activity limited	No.	29	18	--	29	18	--	-	-	-	-	-	-
	%	.1	.2	--	.5	.6	--	-	-	-	-	-	-

(1) Refers to the previous 12 months for both major activity and activity limitation.

Chapter VII

Emotional Health

EMOTIONAL HEALTH

Highlights

- Two scales of emotional well-being and distress provide consistent evidence that many groups in the Canadian population are relatively unhappy: women, teenagers and the elderly, the widowed, divorced and separated, low-income people and those who are inactive for health or other reasons. Those who report psychological distress are less often in good general health, are less likely to be physically active in their leisure time, and are more inclined to use tranquilizers and sleeping pills.

Methods

For survey purposes, emotional health was defined as having both positive and negative aspects. The positive side is referred to in this report as psychological well-being, and is revealed through positive affect — good feelings — about oneself, the world, and one's place in it. Thus well-being is more than the mere absence of emotional illness. The negative aspect of emotional health is revealed in the Canada Health Survey (CHS) by evidence of mild affective disorders, that is, anxiety and depression.

This focus on feeling states is typical of population surveys, and is an appropriate perspective for describing the household-based population. But it does leave unmeasured other important elements of mental health and mental illness, including mental retardation and psychotic states.

The measurement of emotional health in the CHS was based on the premise that valid indicators of emotional states are obtained by asking individuals directly about their feelings — both good and bad — and about psycho-physiological symptoms indicative of distress. This approach ruled out the use of proxy reporting for obvious reasons, and thus the self-administered questionnaire was used in the CHS for measuring emotional health.

Two scales well-known for the measurement of emotional health in population surveys were used in the CHS, and they appeared at the beginning of the "Lifestyle and Your Health" questionnaire (Appendix I). As with all other sections in this questionnaire, responses were sought from all household members aged 15 and over and were probably subject to some lack of confidentiality when being completed. Earlier uses of these two scales in previous surveys and CHS pilot studies indicate that comprehension and recall are not problems that affect the quality of the data.

Bradburn's Affect Balance Scale[1] was used as the general measure of psychological well-being. The CHS version, which was typical of earlier uses of this scale, consisted of five positively-worded and five negatively-worded descriptions of recent feeling states (see the questions headed "Your Feelings" on page 209 in Appendix I). Respondents indicated the frequency of experiencing these states, answers were weighted according to frequency, and then summed for each set of five questions. This gave two separate scores — for positive affect and negative affect. These could be analysed independently (e.g., Table 76) or combined into a single index — the Affect Balance Scale (ABS) — indicating whether positive or negative feelings predominated or were approximately balanced for the individual. This index provides an acceptably valid and reliable measure of psychological well-being. It is particularly useful for assessing positive affect. However, the index is not a comprehensive measure of "mental health" as this would include elements besides feeling states.

Since the Affect Balance Scale provides a measure of both positive and negative emotional health, it is compatible with the perspective on health which underlies in the whole Canada Health Survey. However, it provides rather diffuse indications of emotional distress, and so was supplemented by a scale which has been widely used to assess the extent of anxiety and depression in populations — MacMillan's Health Opinion Survey (HOS).[2,3,4] This scale does not measure opinions, but rather, the frequency of occurrence of psycho-physiological symptoms of anxiety and depression and, hence, of distress. A single score for the 16 questions (see page 209 in Appendix I) is derived from the responses which are weighted to reflect frequency, and ranges from 16 (all symptoms experienced often) to 48 (all symptoms never experienced). Because few respondents indicated relatively high distress, only two categories are reported ("infrequent" and "frequent"). In the survey context, the comparison of scores between these groups is useful for identifying the relative prevalence of anxiety and depression. There is no attempt made here — or elsewhere in this report — to identify "cases".[5]

In the tables accompanying this chapter, the "unknown" category averages 10% for the Affect Balance Scale and 3% for the Health Opinion Survey. These percentages represent the people who omitted all or most of the questions in the two scales. Adjusted ABS scores are reported for respondents answering four of the five questions in each set within the group of 10; similarly, HOS scores were adjusted and are reported if no fewer than 13 questions were completed out of a possible 16.

In addition to those reported as "unknown", a further 14% of the total sample over age 15 failed to answer any part of the self-completed questionnaire. As in other chapters of this report, these responses have been allocated to the categories in the same proportion as the known respondents, as described in the Overview under "Data Limitations".

Results

Happy People, Distressed People

On balance, 46% of the population age 15 years and over are more happy than distressed about their lives, and another 41% are neutral or mixed in feeling (Table 68). Only 4% are, on balance, more negative in feelings, according to Affect Balance Scale scores. This general trend toward the positive is corroborated by the HOS results (Table 69), where only 4% reveal frequent symptoms of anxiety and depression.[6]

Bearing in mind that happiness and distress are treated here as relative descriptions, it is possible to identify definite patterns of findings when one looks at age, sex, and marital status.

The relationship between age and Affect Balance can be described as an inverted-U (Table 68). Teenagers of both sexes are less positive than the average and more likely to be in the neutral or mixed category, while teenage women have the largest proportion in the negative category (7%) of any age-sex group. At the other end of the life cycle, those 65 years of age and greater are less positive than the average for all ages. Although they do not report themselves as negative, this age group does show the highest proportions of "unknowns".

With the exception noted above for teenagers, there is little difference between men and women in Affect Balance Scale results up to age 35. Beginning at this age, women are consistently (but slightly) distributed more toward the negative end of the scale. This is most pronounced through the middle age groups, and diminishes above age 55.

Results from the Health Opinion Survey are generally consistent with these findings, as there is a steady increase in symptoms of anxiety and depression with advancing years. With respect to sex differences, the HOS is even clearer than the ABS; for every age group, there are more women than men scoring high. Unlike the ABS results, though, these sex differences are most pronounced for the young (15-19 and 20-24) and the old (65+). As is true of the ABS scores, there is an increase in the proportion of unknowns as age increases.

The relationship of marital status to emotional well-being and distress reveals rather clear patterns. The largest groups are the singles and the marrieds and they do not differ from the HOS population average (Table 71), while they revolve around the norm on the Affect Balance Scale, with married respondents more on the positive end and the singles more toward the negative (Table 70). An exception to this general pattern are the singles over age 54 who are more positive than the norm for the entire group of never-married respondents by as much as 14%, and 17% more positive than the average for their entire age cohort (ABS data, not shown).

It is the widowed, divorced and separated respondents who show significant departures from the average. On the ABS, the divorced and the separated of both sexes score fewer "positives" (Table 70); this is most true of divorced men — 16% below the average for all males — and least true for separated women — 4% below the average of all females. As with other groups who score low, the widowed, divorced and separated generally have a higher proportion of "unknowns". On the HOS as well, the widowed, separated and divorced report significantly more frequent symptoms than the average (Table 71). Although sample size prohibits a strict comparison of the two sexes, this finding is particularly true for females.

While age, sex and marital status each has a clear relationship to emotional health, judging by these findings, it does not seem to make much difference where one lives. ABS scores were compared for communities ranging in size from under 1,000 to over 1,000,000; no differences between them were found (data not shown).

In summary, psychological well-being is most characteristic of younger people (below age 55 but not below age 20), males, marrieds and singles. Older Canadians, women generally and especially teenagers, the widowed, divorced and separated tend to be less happy than the average.

While the circumstances of happiness and distress are complex, it is generally acknowledged that material concerns are amongst the most basic. Thus some of the economic correlates of emotional health are described in the next section.

Psychological Status, Economic Status

The relationship between income and emotional health is the most readily demonstrated of any investigated: as family income increases, there are significant increases in the proportions of positive scorers on the ABS (Table 72), and of infrequent symptom reports on the HOS (Table 73). At the same time, there are more often negative ABS scores and frequent HOS symptoms associated with low incomes. "Unknowns" are more common for the lower income groups.

Given these results, and the relationship between income and education, it is not surprising to find an association between education and HOS scores as well. Table 74 shows that, for those who are not presently in school, anxiety and depression symptoms are more common as education decreases.

As a further indication of economic status, major activity in the workaday world was identified for each respondent in the survey. This provides an indication only of one's main role in the previous 12 months, and does not adequately reflect the fact that most adults have multiple responsibilities and that, for many, home and work both present very real demands. Nevertheless, differences between major activity groups are apparent (Table 75).

Inactive persons are clearly less positive and more negative on the Affect Balance Scale than the average. Whether they are inactive due to health or other reasons, these respondents also show a striking proportion of unknowns.

On a more positive note, one group stands out as far happier than the others, and this is male homemakers. However, it is a small group, with a high sampling error, and so deserves only passing mention.

Correlates and Consequences

The ABS scores of those Canadians who are chronically inactive are indicative of some psychological distress, and this raises questions about the reasons: are they unhappy because they are inactive, or is the inactivity a result of depression which has its roots elsewhere? A definitive answer is not possible with cross-sectional survey data and, indeed, there may be truth in both hypotheses. However, it is possible to explore this question further by comparing the health behaviours of happy versus unhappy people.

The most comprehensive of the health behaviours identified by the survey is chronic activity limitation — persistent reductions for health reasons in the kind or nature of major activity one can undertake. Table 76 shows that Canadians reporting such limitations displayed more emotional distress by their scores on the Negative Affect subscale of the ABS. There is also a tendency for those reporting disability-days in the last two weeks to score higher (i.e., more unhappy) on the Negative

Affect Scale. Here, too, it is impossible to say whether unhappiness is cause or result. However, other health behaviours which are not necessarily associated with health problems, such as consulting health professionals and taking drugs in general, show no particular association with emotional distress. And yet there is a greater tendency to use tranquilizers and sleeping pills for those with high scores on the Negative Affect Scale (Table 98, Chapter X). It should be noted that it is the elderly who are most likely to report health behaviours, and that they also score low on Affect Balance.

These relationships suggest that emotional distress as reported in the CHS is a genuine health problem, because it is associated with health behaviour in the same fashion as other health problems (Chapter VI). Further evidence for this conclusion is found in the findings regarding physical activity and happiness (Table 29, Chapter III). Respondents with a sedentary lifestyle are more likely than active people to score in the negative category on the ABS than in the positive, while Canadians who are active are more often positive in psychological well-being. As reported in Chapter III, active people are generally healthier people, and healthier people are more likely to be active.

The last correlate of psychological well-being to be reported is alcohol use. Current users of alcohol (i.e., at least one drink per month) are more likely to score positively on the ABS or in the neutral range, while non-drinkers tend to report overall negative affect (see Table 10 in Chapter I). However, these differences are not marked, and there is also evidence that these drinkers are generally moderate users of alcohol.

Discussion

From these results, it is possible to draw profiles of the happy and the unhappy Canadian adult, always remembering that these are relative terms.

The "happy" Canadian is between the ages of 20 and 55, married, with a good income and education and is somewhat more likely to be male. He or she is physically active, in good general health and consumes alcohol at least monthly, in moderation. Since many of these characteristics by themselves are common in the population, it is not surprising that 45% of Canadians fall into the "happy" category on the emotional health measures. And, because of these characteristics, one can refer to these people as being in the "mainstream" of Canadian society.

The "unhappy" Canadian is either young or old and slightly more likely to be female; he or she is widowed, divorced or separated; has a low income and not much education; and health or other circumstances place limits on activity. In short, these are people who are limited for various reasons in their ability to participate in mainstream activities.

Further support for the mainstream/marginal explanation comes from the two small groups who are amongst the happy ones, but whose characteristics suggest they might be marginal as well. These are the male homemakers and the singles over 55, and the difference between them and the truly marginal is that they have either chosen their lot or adjusted to it. Unhappiness, then, may come not just from material and social circumstances, but also from one's perception of these circumstances and, in particular, whether or not they are seen as matters of choice.

As to whether emotional distress is a problem of significance in Canada, these findings alone are inadequate to judge, but there is ample suggestion that the problem is more extensive than reported here. One indication comes from the profile of the unhappy Canadian. Even though marginal, his or her characteristics are far more common in the population than indicated by the reports of 4% unhappy. Two other indications of the true prevalence of distress come from the pattern of unknowns in this chapter, and the results of previous surveys.

For virtually every variable investigated in this section, there is revealed a striking pattern: as the proportion of scores indicating unhappiness increases, so does the number of unknowns. This is true for older people, the widowed, divorced and separated, lower income groups and inactive respondents. There is no great mystery in this: both the Bradburn scale and the HOS have a high degree of face validity, that is, it is obvious that the questions tap emotional health.

For those feeling vulnerable in this regard, the natural course is to skip over the section. This omission is probably quite selective, in contrast to those who choose not to complete any of the self-administered questionnaire. As noted in the Overview (under "Data Limitations"), those who did not respond at all to the questionnaire were treated as if they were "average" respondents. However, this analysis suggests that respondents skipping only the emotional health section were not at all typical, and that they tend toward the negative end of the response scales. If this is the case, the actual proportion of unhappy Canadians is as much as 10% higher than shown in the tables.

The findings of previous surveys support his conclusion. Bradburn's studies in the Chicago area,[2] and Berkman's in California[7] report approximately equal numbers of positive, neutral and negative scorers on the ABS. Similarly, previous surveys using the HOS have typically classified 30% of the population as anxious or depressed.[3] There is no apparent reason why Canadians in the late 70's should be substantially happier than other populations, in earlier times. Furthermore, the age trends, the sex differences and the relationships with marital status and income reported here are all consistent with the earlier surveys referred to above. This evidence leads to the conclusion that the CHS findings are accurately reflecting differences between groups while over-estimating the extent of psychological well-being and underestimating the prevalence of distress.

The single most likely explanation for this outcome is the family-centred administration of the questionnaire. The obvious intent of the questions has already been noted, undoubtedly leading some respondents to omit the section. Others may have completed the two scales while reporting less unhappiness than if the same questions were asked one-on-one in a confidential interview, as has usually been the case in previous surveys.

In conclusion, the CHS data is best used to make comparisons between groups who, taken together, represent the non-institutionalized population of Canada. These comparisons provide data not previously available in Canada on the relative prevalence of emotional well-being and distress.

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1 Bradburn, N.M. *The Structure of Psychological Well-Being.* Chicago: Aldine Publishing Co., 1969.

2 MacMillan, A.M. The Health Opinion Survey: technique for estimating prevalence of psychoneurotic and related types of disorders in communities. *Psychological Reports,* 1957, Vol. 3, pp. 325-339.

3 Notable Canadian applications of the HOS have been carried out in several studies in Nova Scotia (see D.C. Leighton, J.S. Harding, D.B. Macklin, A.M. MacMillan, and A.J. Leighton, *The Character of Danger,* New York: Basic Books, 1963) and in Quebec (see G. Denis, M. Tousignant and L. Laforest, *Prévalence de cas d'intérêt psychiatrique dans une région du Québec, Canadian Journal of Public Health,* 1973, Vol. 64, pp. 387-397).

4 Because the HOS was added after the survey began, those answering it were a sub-set of those who responded to the Affect Balance Scale, but the estimates reported have been adjusted as they apply to the same population. The HOS data reported here are based on the period October 1978 — March 1979 for the Atlantic provinces, Quebec and Ontario, and for November through March for the Prairies and British Columbia.

5 The Health Opinion Survey has been used with a good deal of success to identify cases of psychological disorder requiring treatment. While this is useful for planning purposes when the data are collected from a small geographical area (one that is served by identifiable hospitals or other treatment facilities), it is less appropriate when dealing with an entire national population.

6 Granted that these categories could be defined differently, the fact remains that the high and low groups each contain one-half of the total possible scores on the HOS: 16-31 for the "frequent" group, indicating most symptoms were experienced often or sometimes, and 32-48 for the "infrequent" group, who experienced most of the listed symptoms only sometimes or not at all.

7 Berkman, P.L. Measurement of mental health in a general population survey. *American Journal of Epidemiology,* 1971, Vol. 94, pp. 105-111.

TABLE 68. Population 15 Years and Over by "Affect Balance Scale" Scores, by Age and Sex, Canada, 1978-79

		Affect Balance Scale scores				
		Total	Positive	Mixed	Negative	Unknown
		in thousands				
Age 15 and over:						
Both sexes	No.	17,492	7,956	7,081	770	1,686
	%	100.0	45.5	40.5	4.4	9.6
Male	No.	8,584	4,017	3,467	304	797
	%	100.0	46.8	40.4	3.5	9.3
Female	No.	8,907	3,939	3,614	466	888
	%	100.0	44.2	40.6	5.2	10.0
15-19:						
Male	No.	1,187	494	590	45	58
	%	100.0	41.6	49.7	3.8	4.9
Female	No.	1,146	458	565	78	45
	%	100.0	39.9	49.3	6.8	4.0
20-24:						
Male	No.	1,106	520	498	39	50
	%	100.0	47.0	45.0	3.5	4.5
Female	No.	1,108	508	508	53	39
	%	100.0	45.8	45.8	4.8	3.6
25-44:						
Male	No.	3,230	1,580	1,357	119	174
	%	100.0	48.9	42.0	3.7	5.4
Female	No.	3,242	1,507	1,396	148	191
	%	100.0	46.5	43.1	4.8	5.9
45-64:						
Male	No.	2,174	1,063	747	63	301
	%	100.0	48.9	34.4	2.9	13.8
Female	No.	2,279	1,013	816	117	333
	%	100.0	44.4	35.8	5.1	14.6
65 and over:						
Male	No.	887	360	275	38	214
	%	100.0	40.6	31.0	4.3	24.1
Female	No.	1,132	454	329	70	279
	%	100.0	40.1	29.1	6.2	24.7

TABLE 69. Population 15 Years and Over by "Health Opinion Survey" Scores, by Age and Sex, Canada, 1978-79

		Health Opinion Survey scores			
		Total	Infrequent symptoms of anxiety and depression	Frequent symptoms of anxiety and depression	Unknown
		in thousands			
Age 15 and over:					
Both sexes	No.	**17,492**	**16,248**	**693**	**550**
	%	**100.0**	**92.9**	**4.0**	**3.1**
Male	No.	**8,584**	**8,139**	**199**	**247**
	%	**100.0**	**94.8**	**2.3**	**2.9**
Female	No.	**8,907**	**8,110**	**494**	**304**
	%	**100.0**	**91.0**	**5.5**	**3.4**
15-19:					
Male	No.	1,187	1,148	..	31
	%	100.0	96.7	..	2.6
Female	No.	1,146	1,081	50	15
	%	100.0	94.3	4.4	1.3
20-24:					
Male	No.	1,106	1,089	..	7
	%	100.0	98.5	..	.7
Female	No.	1,108	1,045	57	6
	%	100.0	94.3	5.1	.6
25-44:					
Male	No.	3,230	3,123	61	46
	%	100.0	96.7	1.9	1.4
Female	No.	3,242	3,043	142	56
	%	100.0	93.9	4.4	1.7
45-64:					
Male	No.	2,174	2,010	83	81
	%	100.0	92.4	3.8	3.7
Female	No.	2,279	2,002	158	119
	%	100.0	87.9	6.9	5.2
65 and over:					
Male	No.	887	769	36	81
	%	100.0	86.7	4.1	9.2
Female	No.	1,132	938	87	107
	%	100.0	82.8	7.7	9.5

TABLE 70. Population 15 Years and Over by "Affect Balance Scale" Scores, by Marital Status and Sex, Canada, 1978-79

		Affect Balance Scale scores				
		Total	Positive	Mixed	Negative	Unknown
		in thousands				
Marital status:						
Both sexes	No.	17,492	7,956	7,081	770	1,686
	%	100.0	45.5	40.5	4.4	9.6
Male	No.	8,584	4,017	3,467	304	797
	%	100.0	46.8	40.4	3.5	9.3
Female	No.	8,907	3,939	3,614	466	888
	%	100.0	44.2	40.6	5.2	10.0
Married:						
Male	No.	5,569	2,779	2,084	166	540
	%	100.0	49.9	37.4	3.0	9.7
Female	No.	5,496	2,568	2,168	230	529
	%	100.0	46.7	39.5	4.2	9.6
Widowed:						
Male	No.	146	60	50	4	32
	%	100.0	41.4	33.9	2.6	22.0
Female	No.	799	316	290	63	130
	%	100.0	39.5	36.3	7.9	16.3
Divorced:						
Male	No.	120	37	61	..	..
	%	100.0	30.4	50.8	..	..
Female	No.	240	85	105	21	29
	%	100.0	35.3	43.7	8.9	12.1
Separated:						
Male	No.	160	55	85	10	9
	%	100.0	34.6	53.5	6.5	5.5
Female	No.	259	103	94	32	30
	%	100.0	40.0	36.3	12.2	11.5
Single:						
Male	No.	2,429	1,050	1,138	110	131
	%	100.0	43.2	46.8	4.5	5.4
Female	No.	1,979	827	925	115	112
	%	100.0	41.8	46.7	5.8	5.7
Unknown:						
Male	No.	160	35	49	..	69
	%	100.0	21.8	30.6	..	43.2
Female	No.	135	40	32	..	58
	%	100.0	29.5	23.7	..	43.1

TABLE 71. Population 15 Years and Over by "Health Opinion Survey" Scores, by Marital Status and Sex, Canada, 1978-79

		Health Opinion Survey scores			
		Total	Infrequent symptoms of anxiety and depression	Frequent symptoms of anxiety and depression	Unknown
		in thousands			
Marital status:					
Both sexes	**No.**	**17,492**	**16,248**	**693**	**550**
	%	**100.0**	**92.9**	**4.0**	**3.1**
Male	**No.**	**8,584**	**8,139**	**199**	**247**
	%	**100.0**	**94.8**	**2.3**	**2.9**
Female	**No.**	**8,907**	**8,110**	**494**	**304**
	%	**100.0**	**91.0**	**5.5**	**3.4**
Married:					
Male	No.	5,591	5,314	135	142
	%	100.0	95.0	2.4	2.5
Female	No.	5,532	5,120	249	163
	%	100.0	92.6	4.5	2.9
Widowed:					
Male	No.	159	145	--	10
	%	100.0	90.8	--	6.5
Female	No.	839	706	72	60
	%	100.0	84.2	8.6	7.2
Divorced:					
Male	No.	117	110	--	--
	%	100.0	93.6	--	--
Female	No.	233	185	42	6
	%	100.0	79.2	18.1	2.7
Separated:					
Male	No.	153	138	--	--
	%	100.0	90.0	--	--
Female	No.	231	198	29	--
	%	100.0	85.5	12.7	--
Single:					
Male	No.	2,420	2,349	40	31
	%	100.0	97.0	1.7	1.3
Female	No.	1,945	1,807	98	39
	%	100.0	92.9	5.0	2.0
Unknown:					
Male	No.	143	84	--	58
	%	100.0	58.4	--	40.6
Female	No.	128	94	--	31
	%	100.0	73.3	--	24.2

TABLE 72. Population 15 Years and Over by "Affect Balance Scale" Scores, by Economic Family Income Quintiles, Canada, 1978-79

		Affect Balance Scale scores				
		Total	Positive	Mixed	Negative	Unknown
		in thousands				
Economic family income quintiles:						
Total	**No.**	**17,492**	**7,956**	**7,081**	**770**	**1,686**
	%	**100.0**	**45.5**	**40.5**	**4.4**	**9.6**
First quintile	No.	3,067	1,142	1,274	208	443
	%	100.0	37.2	41.5	6.8	14.5
Second quintile	No.	2,928	1,255	1,215	134	325
	%	100.0	42.8	41.5	4.6	11.1
Third quintile	No.	3,037	1,328	1,302	117	289
	%	100.0	43.7	42.9	3.9	9.5
Fourth quintile	No.	3,467	1,677	1,375	132	283
	%	100.0	48.4	39.7	3.8	8.2
Fifth quintile	No.	4,040	2,115	1,553	134	238
	%	100.0	52.4	38.4	3.3	5.9
Unknown	No.	952	438	362	45	107
	%	100.0	46.0	38.0	4.7	11.3

TABLE 73. Population 15 Years and Over by "Health Opinion Survey" Scores, by Economic Family Income Quintiles, Canada, 1978-79

		Health Opinion Survey scores			
		Total	Infrequent symptoms of anxiety and depression	Frequent symptoms of anxiety and depression	Unknown
		in thousands			
Economic family income quintiles:					
Total	**No.**	**17,492**	**16,248**	**693**	**550**
	%	**100.0**	**92.9**	**4.0**	**3.1**
First quintile	No.	2,949	2,483	283	183
	%	100.0	84.2	9.8	6.2
Second quintile	No.	2,957	2,686	134	138
	%	100.0	90.8	4.5	4.7
Third quintile	No.	3,173	2,975	106	92
	%	100.0	93.8	3.3	2.9
Fourth quintile	No.	3,554	3,395	75	83
	%	100.0	95.5	2.1	2.3
Fifth quintile	No.	3,924	3,827	65	32
	%	100.0	97.5	1.7	8
Unknown	No.	934	882	30	22
	%	100.0	94.4	3.2	2.4

TABLE 74. Population 15 Years and Over by "Health Opinion Survey" Scores, by Education, Canada, 1978-79

		Health Opinion Survey scores			
		Total	Infrequent symptoms of anxiety and depression	Frequent symptoms of anxiety and depression	Unknown
		in thousands			
Education:					
Total	**No.**	**17,492**	**16,248**	**693**	**550**
	%	**100.0**	**92.9**	**4.0**	**3.1**
Presently in secondary or less	No.	1,250	1,195	29	26
	%	100.0	95.6	2.3	2.1
Secondary or less	No.	11,428	10,344	605	479
	%	100.0	90.5	5.3	4.2
Some post-secondary	No.	1,579	1,543	19	18
	%	100.0	97.7	1.2	1.1
Degree or diploma	No.	3,163	3,103	37	23
	%	100.0	98.1	1.2	.7
Unknown	No.	72	63	4	5
	%	100.0	87.4	6.3	6.3

TABLE 75. Population 15 Years and Over by "Affect Balance Scale" Scores, by Major Activity and Sex, Canada, 1978-79

		Affect Balance Scale scores				
		Total	Positive	Mixed	Negative	Unknown
		in thousands				
Major activity:						
Both sexes	**No.**	**17,492**	**7,956**	**7,081**	**770**	**1,686**
	%	**100.0**	**45.5**	**40.5**	**4.4**	**9.6**
Male	**No.**	**8,584**	**4,017**	**3,467**	**304**	**797**
	%	**100.0**	**46.8**	**40.4**	**3.5**	**9.3**
Female	**No.**	**8,907**	**3,939**	**3,614**	**466**	**888**
	%	**100.0**	**44.2**	**40.6**	**5.2**	**10.0**
Working:						
Male	No.	6,013	2,966	2,426	179	443
	%	100.0	49.3	40.3	3.0	7.4
Female	No.	3,100	1,453	1,285	122	240
	%	100.0	46.9	41.5	3.9	7.8
Housework:						
Male	No.	27	17	--	-	--
	%	100.0	62.3	--	-	--
Female	No.	4,213	1,855	1,622	237	498
	%	100.0	44.0	38.5	5.6	11.8
School:						
Male	No.	1,167	525	537	41	64
	%	100.0	45.0	46.0	3.5	5.4
Female	No.	1,041	441	509	68	24
	%	100.0	42.4	48.8	6.5	2.3
Inactive/Health:						
Male	No.	331	75	145	26	85
	%	100.0	22.6	43.8	8.0	25.7
Female	No.	117	34	46	23	15
	%	100.0	29.0	39.1	19.4	12.5
Inactive/Other:						
Male	No.	1,046	434	351	57	203
	%	100.0	41.5	33.6	5.5	19.4
Female	No.	436	156	152	16	111
	%	100.0	35.8	34.9	3.8	25.6

TABLE 76. Population 15 Years and Over by "Negative Affect Scale" Scores, by Selected Health Behaviours, Canada, 1978-79

		Negative Affect Scale scores				
		Total	High	Moderate	Low	Unknown
		in thousands				
Selected behaviours:						
Both sexes	**No.**	**17,492**	**429**	**9,093**	**6,435**	**1,535**
	%	**100.0**	**2.5**	**52.0**	**36.8**	**8.8**
Male	**No.**	**8,584**	**139**	**4,355**	**3,343**	**747**
	%	**100.0**	**1.6**	**50.7**	**38.9**	**8.7**
Female	**No.**	**8,907**	**290**	**4,738**	**3,091**	**788**
	%	**100.0**	**3.3**	**53.2**	**34.7**	**8.9**
Disability days:						
Male	No.	788	18	484	217	68
	%	100.0	2.3	61.5	27.6	8.6
Female	No.	1,307	91	746	363	107
	%	100.0	7.0	57.1	27.7	8.2
Consultations:						
Male	No.	1,546	22	845	531	148
	%	100.0	1.5	54.7	34.3	9.6
Female	No.	2,450	102	1,340	798	210
	%	100.0	4.2	54.7	32.6	8.6
Drug use:						
Male	No.	3,496	61	1,763	1,326	348
	%	100.0	1.8	50.4	37.9	9.9
Female	No.	5,247	193	2,783	1,772	500
	%	100.0	3.7	53.0	33.8	9.5
Activity limitation:						
Male	No.	1,130	28	586	344	172
	%	100.0	2.4	51.9	30.4	15.2
Female	No.	1,317	89	675	375	178
	%	100.0	6.8	51.2	28.5	13.5
None of the above:						
Male	No.	4,075	62	2,040	1,662	312
	%	100.0	1.5	50.0	40.8	7.7
Female	No.	2,749	59	1,436	1,035	219
	%	100.0	2.1	52.2	37.6	8.0

Chapter VIII

Blood Pressure

BLOOD PRESSURE

Highlights

- Nearly 200,000 Canadians have blood pressure elevated to such a degree that (additional) treatment would almost certainly be beneficial. An additional 2.6 million persons might benefit from having their blood pressure lowered. Two thirds of Canadians who have elevated blood pressure are unaware of the fact. Even among those who do know that their blood pressure is elevated, approximately one in five is not taking medication.

Methods

Blood pressure was measured by a nurse during the second household visit which was requested for the Physical Measures subsample, on respondents five years of age and older. The measurement was taken following a five-minute period during which the subject was seated and relaxed. A mercury sphygmomanometer was used, the cuff size being one of three chosen on the basis of mid-arm girth. The reading was taken on the right arm whenever possible, with the subject seated and the arm supported at mid-chest level. The first, fourth and fifth Korotkoff sounds were recorded. Only one reading of each measure was recorded. A second determination was attempted after a two-minute interval only if the nurse had not been able to obtain a reading on the first attempt. Each reading was recorded accurate to the nearest even number of millimetres of mercury. Since a single determination of blood pressure usually overestimates baseline pressure, the estimates in this chapter of the prevalence of hypertension are overestimates.

Preliminary analysis of the data demonstrated a strong preference for the observers to record values with 0 as the terminal digit. This source of observer error introduced a cyclic pattern into the data, with a peak at each 10 mmHg. In order to smooth this effect out of the data, the tabulations are presented in 10 mmHg groupings. Tables 77 and 78 present data for diastolic and systolic pressures, using cutting points in the middle of each 10 mmHg interval, in order to minimize misclassification due to the terminal digit preference.

Twenty-nine per cent of respondents declined to participate in the physical measures. Of those who did take part, virtually all submitted to blood pressure measurement, and readings were obtained for 99%.

Results

Table 77 presents diastolic (5th Korotkoff phase) blood pressure — mean and percentage distribution — by age group, separately for males and females. In the "Mean" column, it is noteworthy that the value for males exceeds that for females in all age groups except the youngest, although in the extreme age groups the difference is negligible. The largest difference is 6.3 mmHg in the age group 25-44 years. For both sexes, the mean diastolic pressure increases with age for all age groups up to 45-64 years. The mean for males falls back slightly for the 65 + group, while for females aged 65 and over the mean is the same as for those aged 45-64. The table also demonstrates that diastolic pressures below 55 mmHg are uncommon, and confined mainly to the youngest age groups. Higher pressures are increasingly prevalent with increasing age, and lower pressures are decreasingly prevalent but to a lesser extent; thus the dispersion of values increases with age. Six per cent of observations are at or above 95 mmHg; 1% are 105 mmHg or greater. Diastolic pressures of 115 mmHg or greater are sufficiently uncommon that the sample is unable to estimate their prevalence.

The findings for systolic blood pressure are very similar to those for diastolic pressure (Table 78). Mean systolic pressure increases with age. It is essentially the same for males and females up to age 15 years, beyond which the mean for males is greater than that for females. The difference is greatest (12.2 mmHg) in the 20-24 year age group, beyond which the means converge to similar values in the 65 + year age group. Values below 85 mmHg are rare except in the youngest age group. As for diastolic pressure, the dispersion increases with age. Systolic pressures at or above 165 mmHg are uncommon before age 45, but account for 17% of observations above the age of 65.

The relationship between blood pressure and smoking habits was investigated, for both systolic and diastolic pressure. The mean pressures showed minimal variations with reported smoking habits. The differences were inconsistent by age group and dissimilar for systolic and diastolic pressures (data not reported here). Also, the relationship between blood pressure and use of contraceptive medication was tabulated. Again the results showed no consistent pattern (data not shown). See Table 34 in Chapter III for data relating blood pressure to physical activity level.

Table 79 illustrates data relating measured blood pressure, reported high blood pressure, and reported use of medication for heart or blood pressure. For the purpose of this table, systolic and diastolic readings are combined to produce a commonly-used classification[1,2] of blood pressure as "normal", "borderline" or "elevated" as follows:

Normal — Diastolic $<$ 90 mmHg **and** Systolic $<$ 140 mmHg.

Elevated — Diastolic $\leq$ 95 mmHg **or** Systolic $\leq$ 160 mmHg.

Borderline — All others, i.e., 90 mmHg $\leq$ Diastolic $<$ 95 mmHg **and** Systolic $<$ 160 mmHg
or Diastolic $<$ 95 mmHg **and** 140 mmHg $\leq$ Systolic $<$ 160 mmHg.

Note that hypertension thus defined is a diagnostic classification, and does not correspond exactly with recent opinion[3] as to the levels of blood pressure which merit treatment. In this table, the fourth Korotkoff sound was used as the measure of diastolic pressure for a few respondents whose fifth phase was unknown.

Reported high blood pressure was defined according to responses to interview questions. Most positive responses originated in the "Chronic Disease List" (see Appendix I). Use of medications was determined from the Drug Use questions on the interview. Note that the relevant question refers to "medica-

tions for heart or blood pressure", and therefore positive responses overestimate the use of medications for blood pressure alone.

Less than 8% of the population overall reports high blood pressure and more females (9%) than males (6%) report the problem. But, by the criterion outlined above, more males (9%) than females (7%) have high blood pressure by measurement.

Of those in whom measured blood pressure is classified as elevated, 65% did not report high blood pressure as a problem. This proportion was much higher for males (76%) than females (52%). Of these same hypertensives, 69% were not taking medication (for heart or blood pressure), the proportions being 79% for males and 58% for females.

The figures represent over 1.7 million Canadians with elevated pressure by this criterion, of whom more than 1.1 million are not aware of the fact, 1.2 million are on no medication, and only 478,000 are both aware of the problem and taking medication. (Again, note that this diagnostic classification labels more people as hypertensive than most current therapeutic regimens would recommend take medication).

High blood pressure was reported by 3% of people in whom it was measured to be normal. Almost all of these reported the use of medication. Presumably these are either controlled hypertensives, or normotensives taking cardiac medication.

Of those for whom elevated blood pressure was both measured and reported, 22% were not taking medication. This proportion was much higher for males (28%) than females (19%).

Discussion

Hypertension, or high blood pressure, is a disease of immense epidemiologic importance. It is common, its consequences can be serious, and it is responsible for a great deal of morbidity and mortality. It is a major risk factor for diseases of the cardiovascular system, predisposing to coronary artery disease and cerebrovascular disease. Other target organs include the kidneys and the retinas. Hypertension is usually asymptomatic, and therefore it can exist unsuspected for years while damage to the target organs accumulates.

Definitions of hypertension for diagnostic purposes involve lower cutting points than those used to guide therapy. The association between risk and blood pressure exists over a wide range of systolic and diastolic pressure.[4] Cutting points for diagnostic distinction between "normal" and "elevated" are therefore somewhat arbitrary. The definition used for Table 79 is a commonly used diagnostic classification. The beneficial effect of medical intervention is well established for diastolic pressures above 104 mmHg.[1] For diastolic levels of 90-104 mmHg, the benefit of treatment is less clear, and may depend partly on other factors such as age and evidence of target organ damage.[4]

Table 79 indicates that, according to the diagnostic classification, 1.7 million persons have definitely elevated blood pressure and therefore elevated risk of cardiovascular disease. A further 2.9 million have "borderline" pressure. Table 77 shows that 185,000 persons have diastolic pressures above 104 mmHg. They would benefit from having their pressure lowered. Analysis not shown indicates that another 2.6 million persons have diastolic pressures between 90 and 104 mmHg, one million of them between 95 and 104 mmHg. (The total of 2.6 million may be an overestimate since the interval 90-104 contains two of the values around which readings tended to peak). These persons might benefit from having their blood pressure lowered, depending on secondary factors. All of these figures pertain to existing hypertension. According to Table 79, there are 350,000 persons whose blood pressure is measured as normal, but who report high blood pressure as a problem and also report the use of medications (for heart or blood pressure). Presumably most of these are hypertensives under adequate medical control.

In summary, 4.6 million persons have blood pressure above normal according to the diagnostic classification used (and based upon a single measurement). At least 185,000 have diastolic pressure sufficiently high that intervention to lower it would almost certainly be beneficial. An additional 2.6 million persons have diastolic pressures less severely elevated but still in a range for which intervention might be appropriate.

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1 Roberts, Jean, *Blood Pressure Levels of Persons 6-74 Years, United States, 1971-1974.* Washington: United States Public Health Service, Vital and Health Statistics, Series II, Data from the National Health Survey, No. 203. (DHEW publication No. (HRA) 78-1648.)

2 *Arterial Hypertension: Report of a WHO Expert Committee.* Geneva: World Health Organization Technical Report Series, 1978.

3 Sackett, D.L. et al. *Report of the Task Force on Hypertension.* Toronto: Ontario Council of Health, 1977.

4 Perry, H.M., and Smith, W.M. Mild hypertension: to treat or not to treat. *Annals of the New York Academy of Sciences,* 1978, Vol. 304.

TABLE 77. Population 5 Years and Over by Diastolic Blood Pressure, by Age and Sex, Canada, 1978-79

		Diastolic blood pressure (Millimetres of mercury)											
		Total	Mean diastolic pressure	1-54	55-64	65-74	75-84	85-94	95-104	105-114	115-124	125 and over	Unknown
		in thousands											
Male:													
All ages	No.	**10,536**	**76.92**	**390**	**1,307**	**2,589**	**3,524**	**1,905**	**544**	**163**	**15**	**7**	**93**
	%	**100.0**		**3.7**	**12.4**	**24.6**	**33.4**	**18.1**	**5.2**	**1.5**	**.1**	**.1**	**.9**
5-9	No.	914	60.29	197	455	197	41	.	.	.	.	.	..
	%	100.0		21.6	49.7	21.6	4.4	.	.	.	.	.	..
10-14	No.	1,038	68.30	85	276	384	224	..	.	.	.	.	..
	%	100.0		8.2	26.6	37.0	21.6	..	.	.	.	.	..
15-19	No.	1,187	71.44	..	214	442	357	93	..	.	.	.	..
	%	100.0		..	18.1	37.2	30.1	7.8	..	.	.	.	..
20-24	No.	1,106	75.94	..	107	340	448	138	..	..	.	.	.
	%	100.0		..	9.7	30.8	40.5	12.5	..	..	.	.	.
25-44	No.	3,230	80.54	..	128	723	1,409	711	206	..	.	.	..
	%	100.0		..	4.0	22.4	43.6	22.0	6.4	..	.	.	..
45-64	No.	2,174	84.30	.	50	327	766	723	178	101	..	.	..
	%	100.0		.	2.3	15.0	35.2	33.2	8.2	4.7	..	.	..
65 and over	No.	887	80.91	..	77	176	280	189	121	..	.	..	..
	%	100.0		..	8.7	19.6	31.5	21.3	13.7	..	.	..	..
Female:													
All ages	No.	**10,768**	**73.60**	**484**	**1,900**	**3,490**	**2,981**	**1,270**	**478**	**42**	..	.	**121**
	%	**100.0**		**4.5**	**17.6**	**32.4**	**27.7**	**11.8**	**4.4**	**.4**	..	.	**1.1**
5-9	No.	868	60.40	235	358	174	..	..	.	.	.	.	..
	%	100.0		27.1	41.2	20.0	..	..	.	.	.	.	..
10-14	No.	992	67.19	96	269	436	176	..	.	.	.	.	..
	%	100.0		9.6	27.1	44.0	17.8	..	.	.	.	.	..
15-19	No.	1,146	69.63	47	305	436	267	..	..	.	.	.	..
	%	100.0		4.1	26.7	38.1	23.3	..	..	.	.	.	..
20-24	No.	1,108	70.65	..	229	491	277	89	.	.	.	.	..
	%	100.0		..	20.7	44.3	25.0	8.2	.	.	.	.	..
25-44	No.	3,242	74.28	..	563	1,099	990	397	116	..	..	.	..
	%	100.0		..	17.4	33.9	30.6	12.2	3.6	..	..	.	..
45-84	No.	2,279	80.36	..	100	612	801	487	254	..	..	.	..
	%	100.0		..	4.4	26.8	35.1	21.4	1.2	..	..	.	..
65 and over	No.	1,132	80.25	..	76	243	407	256	103	..	.	.	..
	%	100.0		..	6.7	21.4	36.0	22.6	9.1	..	.	.	..

TABLE 78. Population 5 Years and Over by Systolic Blood Pressure, by Age and Sex, Canada, 1978-79

		Systolic blood pressure (Millimetres of mercury)														
		Total	Mean systolic pressure	1-84	85-94	95-104	105-114	115-124	125-134	135-144	145-154	155-164	165-174	175-194	195 and over	Unknown
		in thousands														
Male:																
All ages	No.	**10,536**	**123.18**	**118**	**572**	1,155	1,546	2,687	2,003	1,097	713	276	**205**	**86**	--	**52**
	%	**100.0**		**1.1**	**5.4**	11.0	14.7	25.5	19.0	10.4	6.8	2.6	**1.9**	**.8**	--	**.5**
5-9	No.	914	95.02	93	383	317	80	..	.	.	.	.	.	.	.	..
	%	100.0		10.1	41.9	34.7	8.7	..	.	.	.	.	.	.	.	..
10-14	No.	1,038	105.83	..	123	379	301	148	48	..	..	.	.	.	.	..
	%	100.0		..	11.8	36.5	29.0	14.3	4.7	..	..	.	.	.	.	..
15-19	No.	1,187	117.88	.	..	179	218	401	241	..	..	..	..	.	.	..
	%	100.0		.	..	15.1	18.4	33.8	20.3	..	..	..	..	.	.	..
20-24	No.	1,106	124.72	.	.	..	134	416	329	103	..	..	.	..	.	.
	%	100.0		.	.	..	12.1	37.6	29.7	9.4	..	..	.	..	.	.
25-44	No.	3,230	124.98	..	..	173	501	1,189	699	399	191	..	..	.	.	..
	%	100.0		..	..	5.3	15.5	36.8	21.6	12.3	5.9	..	..	.	.	..
45-64	No.	2,174	133.57	.	..	39	261	394	548	375	320	127	73	..	..	..
	%	100.0		.	..	1.8	12.0	18.1	25.2	17.3	14.7	5.8	3.4	..	..	..
65 and over	No.	887	145.06	.	..	..	49	119	138	140	142	109	80	61	..	..
	%	100.0		.	..	..	5.6	13.4	15.6	15.8	16.1	12.3	9.0	6.9	..	..
Female:																
All ages	No.	**10,768**	**118.36**	**160**	**626**	1,930	2,698	2,141	1,209	926	440	268	154	**106**	**47**	--
	%	**100.0**		**1.5**	**5.8**	17.9	25.1	19.9	11.2	8.6	4.1	2.5	1.4	**1.0**	**.4**	--
5-9	No.	868	95.12	145	329	244	85	..	..	..	.	.	.	.	.	..
	%	100.0		16.7	37.9	28.1	9.8	..	..	..	.	.	.	.	.	..
10-14	No.	992	105.90	..	103	384	312	130	..	..	.	.	.	.	.	..
	%	100.0		..	10.4	38.8	31.4	13.2	..	..	.	.	.	.	.	..
15-19	No.	1,146	110.54	.	52	264	504	238	59	..	..	.	.	.	.	..
	%	100.0		.	4.5	23.1	44.0	20.8	5.2	..	..	.	.	.	.	..
20-24	No.	1,108	112.51	.	..	272	392	251	116	..	..	.	..	.	.	..
	%	100.0		.	..	24.6	35.3	22.6	10.5	..	..	.	..	.	.	..
25-44	No.	3,242	115.09	..	102	612	1,052	876	351	145	..	..	..	..	.	..
	%	100.0		..	3.2	18.9	32.4	27.0	10.8	4.5	..	..	..	..	.	..
45-64	No.	2,279	131.07	.	..	149	305	490	393	470	227	126	59	..	..	.
	%	100.0		.	..	6.5	13.4	21.5	17.2	20.6	10.0	5.5	2.6	..	..	.
65 and over	No.	1,132	144.37	.	.	..	..	125	253	230	157	115	88	78	..	..
	%	100.0		.	.	..	..	11.0	22.3	20.3	13.8	10.1	7.8	6.9	..	..

TABLE 79. Population 5 Years and Over, by Reported Blood Pressure and Use of Blood Pressure or Heart Medication by Measured Blood Pressure and Sex, Canada, 1978-79

		Reported blood pressure								
		Total			High blood pressure reported			High blood pressure not reported		
		Total	Medication	No medication	Total	Medication	No medication	Total	Medication	No medication
		in thousands								
Measured blood pressure:										
Total	**No.**	**21,302**	**1,655**	**19,648**	**1,583**	**1,234**	**350**	**19,719**	**421**	**19,298**
	%	**100.0**	**7.8**	**92.2**	**7.4**	**5.8**	**1.6**	**92.6**	**2.0**	**90.6**
Male	**No.**	**10,536**	**678**	**9,859**	**607**	**455**	**152**	**9,929**	**223**	**9,706**
	%	**100.0**	**6.4**	**93.6**	**5.8**	**4.3**	**1.5**	**94.2**	**2.1**	**92.1**
Female	**No.**	**10,767**	**976**	**9,790**	**976**	**779**	**197**	**9,792**	**199**	**9,593**
	%	**100.0**	**9.1**	**90.9**	**9.1**	**7.2**	**1.8**	**90.9**	**1.9**	**89.0**
Normal:										
Total	No.	16,560	538	16,022	467	350	116	16,093	188	15,905
	%	100.0	3.3	96.8	2.8	2.1	0.7	97.2	1.1	96.1
Male	No.	7,839	192	7,647	137	90	47	7,702	102	7,600
	%	100.0	2.5	97.6	1.8	1.2	0.6	98.3	1.3	97.0
Female	No.	8,721	346	8,375	330	260	70	8,391	86	8,305
	%	100.0	3.8	96.0	3.8	3.0	0.8	96.2	1.0	95.2
Border-line:										
Total	No.	2,859	563	2,297	491	393	98	2,368	170	2,198
	%	100.0	19.7	80.3	17.2	13.7	3.4	82.8	6.0	76.9
Male	No.	1,663	277	1,386	234	194	40	1,429	83	1,346
	%	100.0	16.6	83.4	14.1	11.7	2.4	85.9	5.0	81.0
Female	No.	1,196	286	910	257	199	58	940	87	852
	%	100.0	23.9	76.1	21.5	16.6	4.9	78.5	7.3	71.2
Elevated:										
Total	No.	1,746	534	1,212	612	478	135	1,134	57	1,077
	%	100.0	30.6	69.4	35.1	27.4	7.7	64.9	3.2	61.7
Male	No.	963	201	761	236	170	65	727	..	696
	%	100.0	20.9	79.1	24.5	17.7	6.8	75.5	..	72.3
Female	No.	784	333	451	377	307	70	407	26	381
	%	100.0	42.5	57.5	48.1	39.2	8.9	51.9	3.3	48.7
Unknown:										
Total	No.	137	..	117	..	..	..	124	..	116
	%	100.0	..	85.4	..	..	..	90.5	..	84.1
Male	No.	71	..	64	..	..	..	70	..	64
	%	100.0	..	90.1	..	..	..	98.6	..	90.1
Female	No.	..	..	..	..	..	..	..	..	..
	%	..	..	..	..	..	..	..	..	..

Chapter IX

Blood Biochemistry

BLOOD BIOCHEMISTRY

Highlights

- More than three million Canadians have serum cholesterol levels in the range designated "High Risk" by the interpretive standards of the Nutrition Canada Survey. This suggests that there has been little change in cholesterol levels since 1970-1972. The proportion of Canadians in the Nutrition Canada "High Risk" category for hemoglobin is less than 1%.

Methods

A blood sample was requested of respondents aged three years and older in the Physical Measures component. Respondents were asked to fast for at least 1½ hours before the household visit and the preliminary procedures added another ½ hour before the venipuncture. Of respondents who provided the blood sample, 84% did fast as requested.

The blood samples were taken immediately to local laboratories for pre-processing including centrifugation and freezing, where they were packed in dry ice and shipped to the main laboratories for analysis. Assays for lead, zinc and copper were done in the laboratories of the Foods Directorate, Health Protection Branch, Health and Welfare Canada. Analyses of cholesterol, glucose and hemoglobin levels were done by MDS Laboratories Limited.

Laboratory quality control procedures included calibration of instruments using standard samples prior to each run, and accuracy was monitored using standards throughout each run. Performance criteria included specified limits of average and maximum allowable error on the standards for each run. The average permissible discrepancies were 1.5% for hemoglobin, 3% for glucose, 5% for cholesterol, copper and zinc, and 8% for lead.

Overall response to the blood section was 80%. Males failed to respond about 1.3 times more often than females. There was also some variation with age, largely among those who responded to the initial questions on the blood section but subsequently refused to provide a blood sample. Among the 80% who responded, 10% refused a sample. This figure ranged from 40% among the youngest group, to only 4% to 8% among groups older than 15 years. Therefore in the youngest group a sample was attempted for about one out of every three eligible respondents. Among those 15 years and older, a blood sample was attempted for about 65% of those eligible, (60% of males and 70% of females). The "unknown" columns in the following tables indicate those for whom venipuncture was attempted but no result obtained from the labs; most unknowns are attributable to unsuccessful attempts at obtaining sufficient samples. Again, the numbers are highest among the youngest, at 33% among the 3-5 year age group. Only a very small proportion of samples obtained were not analysed due to breakage or other technical problems.

Results

Cholesterol

Overall, 85% of the population have cholesterol levels between 125 and 249 mg/dL. Less than 1% of observations fall below that range. Twelve per cent of observations, representing slightly more than two million persons, lie in the interval 250-349 mg/dL. The number of observations over 350 mg/dL was 56,000, too small a number to permit much breakdown for sex or age groups (Table 80).

In the youngest age group, 15-19 years, 91% of observations lie between 125 and 224 mg/dL. With increasing age the lower values are decreasingly common, and higher values increasingly prevalent. For the 45-64 year age group, the number of observations below 150 mg/dL is too small to be estimated accurately, whereas 4% of observations lie at or above 300 mg/dL. The age group 65 years and over shows a slightly reduced prevalence of higher values than the 45-64 year group.

The total distributions are similar for males and females. However, there are some differences between the sexes within certain age groups. In the two age groups 45 years and older, 31% of males have levels below 200 mg/dL, compared with 20% of females. In the same age groups, 20% of males and 26% of females have cholesterol levels of 250 mg/dL or greater.

Glucose

Overall, 9% of glucose values lie at or above 110 mg/dL (Table 81). Half of these are only slightly above, in the interval 110-119 mg/dL. Slightly more than 1% of values, representing 218,000 persons, are 160 mg/dL or greater. The mean value of serum glucose increases with age, from 87.1 mg/dL at ages 15-19 to 103.6 mg/dL for age group 65 + . The mean for males tends to be slightly higher than for females.

Levels at or above 110 mg/dL are increasingly common with increasing age. For ages 15-19 the proportion is 4% while for ages 65 + the proportion is at least 20%. The trend to increasing levels with age is more marked for males than females, such that for age group 65 and over, only 72% of males have levels below 110 mg/dL, compared with 82% of females.

Hemoglobin

The distribution of hemoglobin values for males shows 15% below 14.0 g/dL, 4% below 13.0 and less than ½% below 12.0 g/dL. There is a trend to lower hemoglobin levels as age increases past 44 years. For men aged 45-64 years, there is decreased prevalence of higher values compared with younger groups, and a similar increase in the number of lower values. There is an additional small increase in the number of lower values for men 65 years and older.

Most of the total distribution for females lies between 11.0 and 15.9 g/dL, with only 4% of observations outside this range. The mean hemoglobin level is higher in the 45-64 year age group than for younger women, and higher still for the 65 +

group, among whom the prevalence of levels of 15.0 g/dL or higher is 17%, compared with 8% for all women 15 years and older.

Lead

Nine per cent of the blood lead samples are reported as unknown in Table 83. This proportion is substantially higher for some age groups than for others — as high as 38% for males aged 3-5 years. Hence the known values are not directly comparable across age groups.

Overall, 66% of the population has a blood lead level below 10 μg/dL; 22% between 10 and 19 μg/dL, and 3% greater than 19 μg/dL. The number at or above 40 μg/dL is too small to be accurately estimated. More than half of the observations of 20 μg/dL or greater occur in males aged 25-64 years, representing 362,000 persons nationally.

Tabulation of blood lead level against community size does not reveal any pattern (data not shown).

Zinc

Most of the distribution of serum zinc values lies between 60 and 119 μg/dL, with approximately 1% of observations lower and a similar number higher (Table 84). Overall, the higher values are more prevalent up to age 44, while lower values are more frequent among the older groups. There is a progressive decrease in mean zinc level with age among those males older than 19 years. Beyond 44 years, higher values are decreasingly prevalent and lower values increasingly prevalent.

The pattern for females is the inverse of that for males. The mean zinc level decreases between the 15-19 and 20-24 groups, then increases with age up to the 45-64 year group, then decreases again for the oldest group. The range over which the means vary with age is much greater for males (more than 10 μg/dL) than females (2.8 μg/dL). The mean level of serum zinc for females below age 45 is somewhat lower than for males.

Copper

The observations on serum copper levels are quite dispersed, with 1% below 70 μg/dL and 3% measured at 200 μg/dL or greater (Table 85). The distribution is much less dispersed for males than for females. Approximately 1% of observations lie at 160 μg/dL or higher for males, compared with 15% for females. Both sexes are represented at the lower end of the distribution, although lower values are considerably more common among males.

For males the mean copper level increases with age throughout the age range. Lower values are more common in the younger ages, higher values in the older ages. For females the distribution varies with age group, but differently. The youngest group has the lowest levels, while the group next older has the highest. Thereafter the mean value tends to decline with age, although not smoothly. The mean for the 35-44 year group is lowest of all groups older than 19 years.

Discussion

Serum cholesterol is of interest because of its association with vascular disease, particularly coronary artery disease. The Nutrition Canada Survey[1] defined "Low Risk" and "High Risk" categories in terms of age- and sex-dependent cut-off points. For females, "High Risk" was defined to exist above 220 mg/dL (20-39 years), or 230 mg/dL (40-64 years) or 250 mg/dL (65 years and over). For males the cut-off points were 220, 240 and 250 mg/dL for age groups 20-21 years, 22-39 years, and 40 years and older, respectively. This particular interpretive standard was chosen as it facilitates comparisons with the earlier survey. Other standards can be applied to the detailed data presented in Table 80.

The sample size of the Canada Health Survey does not permit a sufficiently fine breakdown of results to use all of the Nutrition Canada cut-off points at all relevant ages. However, reasonable approximations can be made by using a cut-off point for females of 225 mg/dL for ages up to 64 and 250 mg/dL for ages 65 and older, and for males by using 225 mg/dL for ages up to 24 and 250 mg/dL for ages 25 and older. With these cut-off points, the Canada Health Survey finds 13% of males and 24% of females to have "High Risk" levels of serum cholesterol. These figures represent 3.28 million persons nationally. Within these limitations, comparisons with the Nutrition Canada Survey suggest little change in cholesterol levels since 1970-1972. Different interpretive standards, of course, will mean a different estimate in the actual number of Canadians at risk.

The results for serum glucose are difficult to interpret because of the incomplete control on the period of fasting prior to venipuncture. Duration of fasting was at least two hours for 85% of subjects, but since for many the duration was considerably longer, the test may not be regarded as one of two-hour postprandial levels. Additionally, 15% of subjects fasted less than the requested time. This is nearly twice the proportion of observations at or above 110 mg/dL, the value commonly regarded as the cut-off point between "normal" and "elevated" for fasting levels.[2] Some approximations may be made, however. If all results are regarded as fasting levels, the results of 110 mg/dL or greater place an upper limit of 9% on the proportion of persons with elevated serum glucose. Approximately 1% of results are clearly elevated, at or above 160 mg/dL. The proportion at 140 mg/dL or above, the criterion for diabetes on 10-16 hour fasting samples recommended by the United States National Institutes of Health,[3] is 2.5%.

The interpretive standards for the Nutrition Canada Survey define for respondents 17 years and older a "High Risk" regarding hemoglobin at levels below 12.0 g/dL for males and 10.0 g/dL for females. By these criteria the Canada Health Survey found at "High Risk" approximately 1% each of males and females.

The maximum acceptable level for blood lead which was used in reporting results to respondents was 40 μg/dL.[4] There are a few observations above that level (none above 50 μg/dL) but the number is too small to permit an accurate estimate of prevalence for the country. Blood lead levels are of particular interest in the pediatric age groups, because children absorb and retain proportionately more of ingested lead than do adults.

However, up to age 19 the number of observations even above 20 μg/dL is too small to allow reliable estimates.

Zinc and copper are essential in trace amounts as components of many enzymes having a variety of metabolic functions. Dietary sources are numerous, and deficiency of a degree to cause clinical illness is quite rare. The purpose of the present data is less to investigate prevalence of deficiency than to document levels, distributions, sex differences, and trends with age.

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[1] *Nutrition Canada National Survey*: A Report by Nutrition Canada to the Department of National Health and Welfare. Ottawa: Information Canada, 1973.

[2] Wallach, J. *Interpretation of Diagnostic Tests*. Boston: Little, Brown and Company, 1970.

[3] *Glucose Levels and Diabetes*. Bethesda, Maryland: National Institutes of Health, 1980.

[4] Vaughan, V.C.III, MacKay, R.J., Behemman, R.E., and Nelson, W.E., *Nelson Textbook of Pediatrics*. Toronto: W.B. Saunders, 1979.

TABLE 80. Population 15 Years and Over by Serum Cholesterol Level, by Age and Sex, Canada, 1978-79

		Serum cholesterol level (mg/dL)												
		Total	Mean cholesterol	01-99	100-124	125-149	150-174	175-199	200-224	225-249	250-274	275-299	300-349	350 and over	Unknown
		in thousands													
Both sexes:															
All ages	No.	17,491	202.92	..	121	1,140	3,092	4,332	3,530	2,689	1,278	574	220	..	440
	%	100.0		..	.7	6.5	17.7	24.8	20.2	15.4	7.3	3.3	1.3	..	2.5
15-19	No.	2,333	165.68	..	..	527	858	604	123	..	..	..	-	-	98
	%	100.0		..	..	22.6	36.8	25.9	5.3	..	..	..	-	-	4.2
20-24	No.	2,233	186.88	..	..	285	574	646	323	190	..	..	..	-	84
	%	100.0		..	..	12.8	25.7	28.9	14.5	8.5	..	..	..	-	3.7
25-34	No.	3,787	196.44	..	..	183	852	1,080	829	531	149	82	..	..	38
	%	100.0		..	..	4.8	22.5	28.5	21.9	14.0	3.9	2.2	..	..	1.0
35-44	No.	2,666	203.32	-	..	96	439	748	653	485	118	60	..	..	36
	%	100.0		-	..	3.6	16.5	28.0	24.5	18.2	4.4	2.2	..	..	1.3
45-64	No.	4,305	225.33	-	..	..	236	896	1,070	940	562	307	140	..	108
	%	100.0		-	..	..	5.5	20.8	24.9	21.8	13.1	7.1	3.2	..	2.5
65 and over	No.	2,166	225.34	-	-	26	133	358	531	497	385	114	..	..	..
	%	100.0		-	-	1.2	6.1	16.5	24.5	23.0	17.8	5.3	..	..	..
Male:															
All ages	No	8,584	203.69	..	62	609	1,230	2,281	1,791	1,369	642	292	78	..	196
	%	100.0		..	.7	7.1	14.3	26.6	20.9	15.9	7.5	3.4	.9	..	2.3
15-19	No	1,187	163.63	..	..	325	370	343	..	..	-	-	-	-	57
	%	100.0		..	..	27.3	31.2	28.9	..	..	-	-	-	-	4.8
20-24	No	1,120	186.69	-	..	167	211	355	188	108	..	..	-	-	..
	%	100.0		-	..	14.9	18.9	31.7	16.8	9.6	..	..	-	-	..
25-34	No	1,881	204.17	-	..	82	299	485	514	293	110	..	..	..	..
	%	100.0		-	..	3.3	15.9	25.8	27.3	15.6	5.9	..	..	..	..
35-44	No	1,335	212.16	-	..	..	172	321	360	261	97	54	..	..	..
	%	100.0		-	..	..	12.9	24.0	26.9	19.6	7.3	4.0	..	..	..
45-64	No	2,066	223.05	-	..	..	99	575	437	416	284	121	62	..	39
	%	100.0		-	..	..	4.8	27.8	21.2	20.1	13.7	5.9	3.0	..	1.9
65 and over	No	994	216.52	-	-	..	77	202	251	275	109	..	..	-	24
	%	100.0		-	-	..	7.8	20.3	25.3	27.7	10.9	..	..	-	2.4
Female:															
All ages	No	8,907	202.17	..	..	531	1,862	2,051	1,739	1,320	636	282	143	..	244
	%	100.0		..	..	6.0	20.9	23.0	19.5	14.8	7.1	3.2	1.6	..	2.7
15-19	No	1,146	167.77	..	..	203	487	261	82	..	..	..	-	-	..
	%	100.0		..	..	17.7	42.5	22.8	7.2	..	..	..	-	-	..
20-24	No	1,113	187.08	..	..	118	363	292	136	..	..	-	..	-	46
	%	100.0		..	..	10.6	32.6	26.2	12.2	..	..	-	..	-	4.2
25-34	No	1,906	188.82	..	..	121	553	595	315	238	..	..	..	-	19
	%	100.0		..	..	6.4	29.0	31.2	16.5	12.5	..	..	..	-	1.0
35-44	No	1,331	194.47	-	..	..	267	427	293	223	..	..	..	-	..
	%	100.0		-	..	..	20.1	32.1	22.0	16.8	..	..	..	-	..
45-64	No	2,239	227.46	-	-	..	137	321	633	524	278	186	78	..	69
	%	100.0		-	-	..	6.1	14.3	28.3	23.4	12.4	8.3	3.5	..	3.1
65 and over	No	1,172	232.97	-	-	..	56	156	280	222	276	80	..	..	..
	%	100.0		-	-	..	4.8	13.3	23.8	19.0	23.6	6.8	..	..	..

TABLE 81. Population 15 Years and Over by Serum Glucose Level, by Age and Sex, Canada, 1978-79

		Serum glucose level (mg/dL)												
		Total	Mean glucose	01-59	60-69	70-79	80-89	90-99	100-109	110-119	120-159	160-199	200 and over	Unknown
		in thousands												
Both sexes:														
All ages	No.	17,491	92.54	..	366	2,412	6,016	4,015	2,036	835	522	92	128	1,648
	%	100.0		..	2.1	13.8	34.4	23.0	11.6	4.8	3.0	.5	.7	9.4
15-19	No.	2,333	87.08	..	59	396	903	436	147	..	..	-	-	307
	%	100.0		..	2.5	17.0	38.7	18.7	6.3	..	..	-	-	13.2
20-24	No.	2,233	88.74	..	104	329	839	439	241	..	..	..	-	127
	%	100.0		..	4.6	14.7	37.5	19.7	10.8	..	..	..	-	5.7
25-34	No.	3,787	88.37	..	..	760	1,530	713	292	99	57	..	..	219
	%	100.0		..	..	20.1	40.4	18.8	7.7	2.6	1.5	..	..	5.8
35-44	No.	2,666	89.27	..	53	396	970	690	200	149	..	-	..	..
	%	100.0		..	2.0	14.8	36.4	25.9	7.5	5.6	..	-	..	..
45-64	No.	4,305	97.09	..	..	392	1,329	1,113	705	251	212	..	53	179
	%	100.0		..	..	9.1	30.9	25.9	16.4	5.8	4.9	..	1.2	4.2
65 and over	No.	2,166	103.57	..	..	140	444	623	450	219	104	..	..	59
	%	100.0		..	..	6.4	20.5	28.8	20.8	10.1	4.8	..	..	2.8
Male:														
All ages	No.	8,584	93.44	..	183	875	3,061	2,074	960	552	297	..	..	487
	%	100.0		..	2.1	10.2	35.7	24.2	11.2	6.4	3.5	..	..	5.7
15-19	No.	1,187	87.28	..	..	137	494	222	71	..	..	-	-	204
	%	100.0		..	..	11.5	41.6	18.7	6.0	..	..	-	-	17.2
20-24	No.	1,120	89.77	..	..	112	466	227	..	..	..	..	-	..
	%	100.0		..	..	10.0	41.6	20.3	..	..	..	..	-	..
25-34	No.	1,881	90.37	-	..	253	812	412	198	..	..	-	..	..
	%	100.0		-	..	13.5	43.2	21.9	10.5	..	..	-	..	..
35-44	No.	1,335	91.59	..	..	113	487	392	97	..	..	-	..	..
	%	100.0		..	..	8.5	36.5	29.3	7.3	..	..	-	..	..
45-64	No.	2,066	96.90	-	..	196	628	529	296	122	135	..	..	..
	%	100.0		-	..	9.5	30.4	25.6	14.3	5.9	6.5	..	..	..
65 and over	No.	994	104.76	-	..	63	175	292	169	152	61	..	..	..
	%	100.0		-	..	6.4	17.5	29.4	17.0	15.2	6.1	..	..	..
Female:														
All ages	No.	8,907	91.65	..	183	1,537	2,955	1,941	1,076	283	225	..	81	559
	%	100.0		..	2.1	17.3	33.2	21.8	12.1	3.2	2.5	..	.7	6.3
15-19	No.	1,146	86.89	..	..	259	410	214	..	..	..	-	-	103
	%	100.0		..	..	22.6	35.8	18.7	..	..	..	-	-	9.0
20-24	No.	1,113	87.69	..	..	216	373	212	..	..	..	-	-	72
	%	100.0		..	..	19.4	33.5	19.0	..	..	..	-	-	6.4
25-34	No.	1,906	86.33	..	..	507	718	301	94	..	..	..	-	142
	%	100.0		..	..	26.6	37.7	15.8	4.9	..	..	..	-	7.5
35-44	No.	1,331	86.82	-	..	283	483	298	103	..	..	-	..	..
	%	100.0		-	..	21.2	36.3	22.4	7.7	..	..	-	..	..
45-64	No.	2,239	97.26	..	..	196	701	584	410	128	77	..	..	88
	%	100.0		..	..	8.7	31.3	26.1	18.3	5.7	3.5	..	..	4.0
65 and over	No.	1,172	102.54	..	..	78	270	331	281	67	43	..	..	41
	%	100.0		..	..	6.5	23.0	28.2	24.0	5.7	3.7	..	..	3.5

TABLE 82. Population 15 Years and Over by Hemoglobin Level, by Age and Sex, Canada, 1978-79

		Blood hemoglobin level (g/dL)												
		Total	Mean hemo-globin	0.1-9.9	10.0-10.9	11.0-11.9	12.0-12.9	13.0-13.9	14.0-14.9	15.0-15.9	16.0-16.9	17.0-17.9	18.0 and over	Unknown
		in thousands												
Both sexes:														
All ages	No.	17,491	14.25	--	153	774	2,186	3,424	4,425	2,899	1,567	582	61	1,325
	%	100.0		--	.9	4.4	12.5	19.6	25.3	16.6	9.0	3.3	.3	7.6
15-19	No.	2,333	14.19	--	--	87	345	534	510	345	194	--	-	255
	%	100.0		--	--	3.7	14.8	22.9	21.9	14.8	8.3	--	-	10.9
20-24	No.	2,233	14.33	--	--	155	218	389	520	338	222	135	--	183
	%	100.0		--	--	6.9	9.8	17.4	23.3	15.1	10.0	6.1	--	8.2
25-34	No.	3,787	14.34	--	--	119	526	574	1,035	635	347	175	--	303
	%	100.0		--	--	3.2	13.9	15.2	27.3	16.8	9.2	4.6	--	8.0
35-44	No.	2,666	14.25	--	--	152	290	522	650	425	287	103	--	178
	%	100.0		--	--	5.7	10.9	19.6	24.4	15.9	10.8	3.9	--	6.7
45-64	No.	4,305	14.21	--	--	156	543	1,005	1,163	751	337	96	--	214
	%	100.0		--	--	3.6	12.6	23.3	27.0	17.4	7.8	2.2	--	5.0
65 and over	No.	2,166	14.15	--	--	106	265	399	547	406	100	--	--	191
	%	100.0		--	--	4.9	12.2	18.4	25.3	18.7	8.3	--	--	8.8
Male:														
All ages	No.	8,584	15.12	-	--	37	236	976	2,357	2,336	1,413	561	--	574
	%	100.0		-	--	.4	2.8	11.4	27.5	27.2	16.5	6.5	--	6.7
15-19	No.	1,187	15.06	-	--	--	--	131	350	267	186	--	-	157
	%	100.0		-	--	--	--	11.1	29.5	22.5	15.7	--	-	13.2
20-24	No.	1,120	15.46	-	-	--	--	113	252	305	199	135	--	83
	%	100.0		-	-	--	--	10.1	22.5	27.3	17.8	12.1	--	7.4
25-34	No.	1,881	15.26	-	-	--	--	155	562	540	302	175	--	--
	%	100.0		-	-	--	--	8.2	29.9	28.7	16.0	9.3	--	--
35-44	No.	1,335	15.23	-	--	--	--	161	291	386	274	--	--	77
	%	100.0		-	--	--	--	12.1	21.8	28.9	20.5	--	--	5.8
45-64	No.	2,066	14.98	-	--	--	57	279	608	610	297	80	--	112
	%	100.0		-	--	--	2.8	13.5	29.4	29.5	14.4	3.9	--	5.4
65 and over	No.	994	14.68	-	--	--	68	137	293	228	154	--	--	56
	%	100.0		-	--	--	6.9	13.8	29.4	22.9	15.5	--	--	5.6
Female:														
All ages	No.	8,907	13.39	--	117	737	1,950	2,448	2,069	563	155	--	--	751
	%	100.0		--	1.3	8.3	21.9	27.5	23.2	6.3	1.7	--	--	8.4
15-19	No.	1,146	13.34	--	--	84	308	403	160	77	--	-	-	98
	%	100.0		--	--	7.3	26.9	35.2	14.0	6.8	--	-	-	8.6
20-24	No.	1,113	13.16	--	--	153	211	277	268	--	--	-	-	101
	%	100.0		--	--	13.7	18.9	24.8	24.0	--	--	-	-	9.0
25-34	No.	1,906	13.36	--	--	118	484	419	473	94	--	-	-	214
	%	100.0		--	--	6.2	25.4	22.0	24.8	4.9	--	-	-	11.2
35-44	No.	1,331	13.25	--	--	146	265	361	359	--	--	--	--	101
	%	100.0		--	--	11.0	19.9	27.1	27.0	--	--	--	--	7.6
45-64	No.	2,239	13.51	--	--	139	486	727	555	141	--	--	-	102
	%	100.0		--	--	6.2	21.7	32.5	24.8	6.3	--	--	-	4.5
65 and over	No.	1,172	13.68	--	--	98	196	262	254	178	--	-	-	136
	%	100.0		--	--	8.3	16.8	22.4	21.7	15.2	--	-	-	11.6

TABLE 83. Population 3 Years and Over by Blood Lead Level, by Age and Sex, Canada, 1978-79

		Blood lead level (μg/dL)					
		Total	Less than 10	10-19	20-39	40 and over	Unknown
		in thousands					
Both sexes:							
All ages	No.	21,962	14,412	4,842	626	..	2,074
	%	100.0	65.6	22.0	2.9	..	9.4
3-5	No.	995	544	120	..	-	323
	%	100.0	54.7	12.1	..	-	32.5
6-9	No.	1,445	1,001	276	..	-	167
	%	100.0	69.2	19.1	..	-	11.5
10-14	No.	2,030	1,471	415	..	-	114
	%	100.0	72.4	20.4	..	-	5.6
15-19	No.	2,333	1,527	409	..	-	382
	%	100.0	65.5	17.5	..	-	16.4
20-24	No.	2,233	1,544	461	71	..	153
	%	100.0	69.1	20.6	3.2	..	6.8
25-34	No.	3,787	2,521	781	144	..	..
	%	100.0	66.6	20.6	3.8	..	..
35-44	No.	2,666	1,635	706	147	..	..
	%	100.0	61.3	26.5	5.5	..	..
45-64	No.	4,305	2,722	1,168	161	-	255
	%	100.0	63.2	27.1	3.7	-	5.9
65 and over	No.	2,168	1,448	506	49	-	164
	%	100.0	66.8	23.4	2.3	-	7.6
Male:							
All ages	No.	10,884	6,096	3,296	480	..	1,006
	%	100.0	56.0	30.3	4.4	..	9.2
3-5	No.	521	212	..	..	-	200
	%	100.0	40.8	..	..	-	38.4
6-9	No.	741	507	176	..	-	..
	%	100.0	68.5	23.7	..	-	..
10-14	No.	1,038	697	289	..	-	46
	%	100.0	67.1	27.9	..	-	4.5
15-19	No.	1,187	699	223	..	-	254
	%	100.0	58.9	18.8	..	-	21.4
20-24	No.	1,120	624	363	..	..	..
	%	100.0	55.7	32.4	..	..	..
25-34	No.	1,881	1,027	581	138	..	..
	%	100.0	54.6	30.9	7.3	..	..
35-44	No.	1,335	631	498	137	-	..
	%	100.0	47.3	37.3	10.3	-	..
45-64	No.	2,066	1,099	731	87	-	149
	%	100.0	53.2	35.4	4.2	-	7.2
65 and over	No.	994	599	333	..	-	30
	%	100.0	60.3	33.5	..	-	3.0
Female:							
All ages	No.	11,078	8,317	1,545	146	..	1,068
	%	100.0	75.1	..	1.3	..	9.6
3-5	No.	474	332	..	-	-	123
	%	100.0	70.0	4.0	-	-	26.0
6-9	No.	704	493	100	-	-	..
	%	100.0	70.1	14.2	-	-	..
10-14	No.	992	774	125	..	-	68
	%	100.0	78.0	12.6	..	-	6.9
15-19	No.	1,146	828	186	..	-	128
	%	100.0	72.3	16.2	..	-	11.2
20-24	No.	1,113	920	98	..	-	85
	%	100.0	82.6	8.8	..	-	7.6
25-34	No.	1,906	1,494	200	..	-	..
	%	100.0	78.4	10.5	..	-	..
35-44	No.	1,331	1,004	208	..	..	..
	%	100.0	75.4	15.6	..	..	..
45-64	No.	2,239	1,623	437	..	-	106
	%	100.0	72.5	19.5	..	-	4.7
65 and over	No.	1,172	848	173	..	-	134
	%	100.0	72.4	14.7	..	-	11.4

TABLE 84. Population 15 Years and Over by Serum Zinc Level, by Age and Sex, Canada, 1978-79

		Serum zinc level (μg/dL)											
		Total	Mean zinc	01-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 and over	Unknown
		in thousands											
Both sexes:													
All ages	No.	17,491	86.70	--	199	982	3,278	4,979	3,649	1,616	492	238	2,025
	%	100.0		--	1.1	5.6	18.7	28.5	20.9	9.2	2.8	1.4	11.6
15-19	No.	2,333	88.27	--	-	117	249	657	533	230	64	--	441
	%	100.0		--	-	5.0	10.7	28.1	22.9	9.9	2.8	--	18.9
20-24	No.	2,233	87.69	--	--	178	386	550	462	239	79	69	218
	%	100.0		--	--	8.0	17.3	24.6	20.7	10.7	3.5	3.1	9.8
25-34	No.	3,787	87.66	--	--	170	709	1,022	716	431	152	58	457
	%	100.0		--	--	4.5	18.7	27.0	18.9	11.4	4.0	1.5	12.1
35-44	No.	2,666	87.92	--	--	136	431	865	585	267	108	--	233
	%	100.0		--	--	5.1	16.2	32.5	22.0	10.0	4.1	--	8.7
45-64	No.	4,305	85.96	--	--	189	913	1,268	1,040	287	--	--	479
	%	100.0		--	--	4.4	21.2	29.4	24.2	6.7	--	--	11.1
65 and over	No.	2,166	82.49	--	--	192	589	617	312	160	--	--	198
	%	100.0		--	--	8.9	27.2	28.5	14.4	7.4	--	--	9.1
Male:													
All ages	No.	8,584	89.12	--	--	318	1,381	2,361	2,011	936	371	163	996
	%	100.0		--	--	3.7	16.1	27.5	23.4	10.9	4.3	1.9	11.6
15-19	No.	1,187	91.77	-	-	--	81	262	351	147	--	--	269
	%	100.0		-	-	--	6.9	22.0	29.5	12.4	--	--	22.7
20-24	No.	1,120	92.59	-	--	--	139	265	286	165	--	--	104
	%	100.0		-	--	--	12.4	23.6	25.5	14.7	--	--	9.3
25-34	No.	1,881	91.19	--	--	--	307	502	448	237	134	--	--
	%	100.0		--	--	--	16.3	26.7	23.8	12.6	7.1	--	--
35-44	No.	1,335	90.77	-	-	--	181	452	314	149	95	--	--
	%	100.0		-	-	--	13.5	33.9	23.5	11.2	7.1	--	--
45-64	No.	2,066	86.49	-	--	90	411	564	524	140	--	--	276
	%	100.0		-	--	4.3	19.9	27.3	25.4	6.8	--	--	13.4
65 and over	No.	994	81.82	-	--	111	261	316	89	98	--	--	66
	%	100.0		-	--	11.2	26.3	31.8	8.9	9.9	--	--	6.6
Female:													
All ages	No.	8,907	84.36	--	154	664	1,896	2,618	1,638	680	121	75	1,029
	%	100.0		--	1.7	7.5	21.3	29.4	18.4	7.6	1.4	.8	11.6
15-19	No.	1,146	84.97	--	-	66	168	395	183	83	--	--	172
	%	100.0		--	-	7.7	14.6	34.5	15.9	7.3	--	--	15.0
20-24	No.	1,113	82.71	--	--	141	246	286	177	--	--	--	114
	%	100.0		--	--	12.7	22.1	25.7	15.9	--	--	--	10.2
25-34	No.	1,906	83.93	-	--	133	402	520	268	194	--	--	287
	%	100.0		-	--	7.0	21.1	27.3	14.1	10.2	--	--	15.0
35-44	No.	1,331	85.03	--	--	121	251	413	271	118	--	--	--
	%	100.0		--	--	9.1	18.8	31.1	20.4	8.9	--	--	--
45-64	No.	2,239	85.49	--	--	99	502	703	516	148	--	--	202
	%	100.0		--	--	4.4	22.4	31.4	23.0	6.6	--	--	9.0
65 and over	No.	1,172	83.08	--	--	--	328	301	223	--	--	--	132
	%	100.0		--	--	--	28.0	25.7	19.0	--	--	--	11.2

TABLE 85. Population 15 Years and Over by Serum Copper Level, by Age and Sex, Canada, 1978-79

		Serum copper level (μg/dL)															
		Total	Mean copper	1-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150-159	160-179	180-199	200-299	300 and over	Unknown
		in thousands																
Both sexes:																		
All ages	No.	17,491	115.5	172	600	1,751	2,890	2,684	2,281	1,513	1,070	601	432	542	434	483	--	2,037
	%	100.0		1.0	3.4	10.0	16.5	15.3	13.0	8.6	6.1	3.4	2.5	3.1	2.5	2.8	--	11.6
15-19	No.	2,333	102.3	--	198	429	513	263	165	--	49	--	--	--	--	--	-	441
	%	100.0		--	8.5	18.4	22.0	11.3	7.1	--	2.1	--	--	--	--	--	-	18.9
20-24	No.	2,233	121.5	--	126	311	471	232	117	74	--	125	--	135	--	152	-	229
	%	100.0		--	5.6	13.9	21.1	10.4	5.2	3.3	--	5.6	--	6.0	--	6.8	-	10.2
25-34	No.	3,787	117.3	--	123	359	591	741	524	277	119	96	--	111	138	187	--	461
	%	100.0		--	3.2	9.5	15.6	19.6	13.8	7.3	3.2	2.5	--	2.9	3.6	4.9	--	12.2
35-44	No.	2,666	112.8	--	52	208	527	465	432	288	133	87	--	--	--	84	-	233
	%	100.0		--	1.9	7.8	19.8	17.5	16.2	10.8	5.0	3.3	--	--	--	3.1	-	8.7
45-64	No.	4,305	118.2	--	70	325	529	643	653	545	383	181	197	159	--	--	--	479
	%	100.0		--	1.6	7.6	12.3	14.9	15.2	12.7	8.9	4.2	4.6	3.7	--	--	--	11.1
65 and over	No.	2,166	117.2	--	--	118	260	340	391	250	308	86	86	62	--	--	-	195
	%	100.0		--	--	5.5	12.0	15.7	18.1	11.5	14.2	4.0	3.9	2.9	--	--	-	9.0
Male:																		
All ages	No.	8,584	102.8	110	399	1,290	1,976	1,515	1,036	599	360	99	96	65	--	--	--	994
	%	100.0		1.3	4.6	15.0	23.0	17.7	12.1	7.0	4.2	1.2	1.1	.8	--	--	--	11.8
15-19	No.	1,187	91.51	--	117	329	248	116	--	--	--	--	--	--	-	-	-	269
	%	100.0		--	9.8	27.7	20.9	9.7	--	--	--	--	--	--	-	-	-	22.7
20-24	No.	1,120	95.77	--	101	234	353	145	78	--	--	--	--	--	-	-	-	104
	%	100.0		--	9.1	20.9	31.5	12.9	6.9	--	--	--	--	--	-	-	-	9.3
25-34	No.	1,881	101.8	--	88	264	437	450	182	161	--	--	--	--	-	--	-	--
	%	100.0		--	4.7	14.0	23.2	23.9	9.7	8.6	--	--	--	--	-	--	-	--
35-44	No.	1,335	105.4	--	--	130	372	242	238	65	--	--	--	-	-	--	-	--
	%	100.0		--	--	9.7	27.8	18.1	17.8	4.8	--	--	--	-	-	--	-	--
45-64	No.	2,066	107.9	--	--	256	401	341	302	219	89	--	--	--	--	-	--	276
	%	100.0		--	--	12.4	19.4	16.5	14.6	10.6	4.3	--	--	--	--	-	--	13.4
65 and over	No.	994	110.2	--	--	--	165	222	198	97	99	--	--	--	--	--	-	64
	%	100.0		--	--	--	16.6	22.3	19.9	9.8	10.0	--	--	--	--	--	-	6.4
Female:																		
All ages	No.	8,907	127.8	61	201	461	914	1,169	1,245	914	710	502	334	477	425	450	--	1,043
	%	100.0		.7	2.3	5.2	10.3	13.1	14.0	10.3	8.0	5.6	3.7	5.4	4.8	5.1	--	11.7
15-19	No.	1,146	112.4	--	81	100	265	147	125	--	--	--	--	--	--	--	-	172
	%	100.0		--	7.1	8.8	23.1	12.9	10.9	--	--	--	--	--	--	--	-	15.0
20-24	No.	1,113	147.9	--	--	77	118	87	39	--	--	--	--	131	--	152	-	124
	%	100.0		--	--	6.9	10.6	7.9	3.5	--	--	--	--	11.8	--	13.7	-	11.2
25-34	No.	1,906	133.8	--	--	95	154	291	343	116	--	--	--	101	138	185	--	291
	%	100.0		--	--	5.0	8.1	15.3	18.0	6.1	--	--	--	5.3	7.2	9.7	--	15.2
35-44	No.	1,331	120.3	--	--	--	155	223	194	224	83	--	--	--	--	--	-	--
	%	100.0		--	--	--	11.6	16.8	14.6	16.8	4.7	--	--	--	--	--	-	--
45-64	No.	2,239	127.2	--	--	69	128	302	351	326	294	139	146	125	--	--	-	202
	%	100.0		--	--	3.1	5.7	13.5	15.7	14.6	13.1	6.2	6.5	5.6	--	--	-	9.0
65 and over	No.	1,172	123.5	--	--	--	95	117	194	153	209	79	--	--	--	--	-	132
	%	100.0		--	--	--	8.1	10.0	16.5	13.0	17.8	6.7	--	--	--	--	-	11.2

Chapter X

Health Services and Medication

HEALTH SERVICES AND MEDICATION

Highlights

- During the course of a year, 76% of the total population consult a medical doctor at least once while 50% have at least one consultation with a dentist. People with higher incomes are more likely to consult a health professional in the absence of a health problem. For all health problems reported, one-third do not result in a professional consultation, the primary reasons being that the problem is not serious enough or is under control.

- During any given two-day period, 48% of the population report taking at least one drug (medicines, pills or ointments, including birth control pills or vitamins) and of those taking drugs, 60% take at least one drug on the advice of a medical doctor. The occurrence of multiple drug-taking among the elderly is frequent, especially among females; one quarter of women aged 65 and over take three or more different kinds of drugs simultaneously.

- Although the combination of birth control pills and smoking presents a much advertised risk of heart attack and stroke, women who take the pill are somewhat more likely to be smokers than those not taking the pill. For women aged 15 and over, 42% report a Pap smear test during the previous year while 21% report conducting monthly breast self-examinations, both practices being more prevalent for higher educational levels.

Methods

This chapter reports findings on consultations with health professionals, reasons for not consulting a health professional, drug use (medicines, pills or ointments) and selected female health practices. Data concerning consultations, reasons for no consultation and drug use were collected in the interview component of the survey where proxy responses were accepted for those family members not present at the time. Consultations with a health professional are usually known for an absent family member as indicated by the fact that the "unknown" or "not stated" categories consistently represent less than 1% of applicable respondents.

Questions concerning selected female behaviours were considered too sensitive for the household interview and were included in the confidential self-completed questionnaire. These included the use of birth control and hormone pills, frequency of Pap smear tests and breast self-examination, and applied only to females aged 15 years and over. Smoking habits were also determined with the self-completed questionnaire. For these sections, the "unknown" categories varied from 3% of females for breast self-examination to 6% of females for the Pap smear test as a result of questions being left unanswered.

Tests of statistical significance were routinely carried out such that any use of the term "significant" denotes statistical significance calculated at $p<.01$ or better. A detailed list of questionnaire items for both the household interview questions and the self-completed questions can be found in Appendix I.

Results

Consultation with Health Professionals

The frequency of consultations with health professionals during the previous 12 months was recorded for each of the major professions. Consultations refer to any contact with a health professional and include telephone conversations as well as actual visits. (However, telephone contacts only account for approximately 2% of the most recent consultation reported.) The proportion of the population making at least one contact is summarized by type of health professional in Text Table IX.

TEXT TABLE IX. Contact with Health Professionals

Type of professional	Proportion of population making at least one consultation during past 12 months
	per cent
Medical doctor	76
Dentist	50
Optometrist/optician	21
Nurse	13
Pharmacist	5
Chiropractor	5
Psychologist/social worker/ counsellor	3

The frequency of consultations for all health professionals shows substantial variation by age, sex, region and other socio-economic or demographic characteristics.

Consultations with a medical doctor are the most common contact and also result in the greatest number of multiple consultations, with more than 9% of the total population reporting 10 or more consultations during the past year (Table 86). A significantly greater proportion of females consult a medical doctor and, on average, report a greater number of consultations than males. The frequency of consultations follows a consistent pattern with age, such that the 0-4 year age group accounts for more visits than older children and young adults while the frequency of consultations increases dramatically for the older age groups. Most regions report a proportion of the population consulting a medical doctor during the past year similar to the Canadian average of 76%, with the exception of Quebec, where only 71% of the population reports a consultation and Ontario, where 82% consulted a doctor (Table 87).

Approximately half of the Canadian population contact a dentist during the course of a year and the majority make only one or two visits (Table 88). As with medical doctors, a greater proportion of females contact a dentist and account for a greater number of multiple consultations. Rates of consultations with a dentist tend to decrease from age 15 onward, with the 5-14 year age group accounting for the greatest number of

consultations. Regional differences can be seen in Table 89: the fewest dental consultations occur in the Atlantic provinces and Quebec where only 43% and 44% of the population, respectively, report at least one consultation. This is balanced by British Columbia and Ontario where the corresponding proportions are 56% and 57%.

The characteristics of consultations with other health professionals were investigated and highlights are mentioned, although tables are not presented. There are no appreciable differences by sex for nurse consultations, however, regional differences are significant. The smallest proportion of the population consulting a nurse is in Ontario (12%) while the greatest proportion is reported for the Prairies (17%) where clinics and group practices are more prevalent. Consultations with a pharmacist (other than for filling a prescription) are not a widespread practice in Canada and exhibit no striking patterns by age, sex or region. It is, however, interesting how few consultations are made in light of the high frequency of drug use (see Table 95).

Regional differences in consultations with an optometrist or optician vary from 26% of the population reporting at least one consultation in the past year in the Prairies to 18% in the Atlantic provinces. Consultations with a chiropractor tend to be for continuing treatment, as reflected by the fact that one third of those people reporting consultations have 10 or more during the year. By region, the proportion of the population reporting at least one consultation with a chiropractor ranges from 1% in the Atlantic region to 9% for British Columbia. For the 3% of the population reporting at least one consultation with a psychologist, social worker or other counsellor, the number of consultations appears relatively evenly distributed by age, sex and region.

The preceding section refers to consultations during the 12 months prior to the interview. Questions were also asked concerning consultations during the past two weeks (Tables 90 and 91). A detailed list of health problems indicating whether or not a consultation occurred has been presented in Table 60 in Chapter VI. Table 90 shows that 22% of the population report at least one consultation with a health professional during the past two weeks. For the most recent consultation, one third of these people do not report an associated health problem. A greater proportion of females and the elderly, once again, report consultations with a greater proportion than average being associated with a health problem. There is no apparent relation between the proportion of the population consulting a health professional during the past two weeks and family income levels (Table 91). A significant difference is observed, however, between the lowest and highest income group for consultations with no health problem. It would appear that those in the higher income group are more likely to consult a health professional on a routine basis without the existence of a health problem.

Reasons for Not Seeking Help

The previous section deals with the frequency of consultations with a health professional where no health problem exists. This section concentrates on those who report a health problem but do not consult a health professional. For each problem not resulting in a consultation during the past year, a series of questions was asked to identify the main reason (see Appendix I). Reasons for not seeking help can be investigated by relating them to individual health problems as in Table 92 or by categorizing people according to their reasons for not seeking help as in Tables 93 and 94. For people who had more than one health problem for which there was no consultation, a derivation was performed to ensure that cell counts represent the number of people reporting any given reason.

Of all health problems reported, approximately one-third do not result in a consultation, for which the reasons can be summarized as in Text Table X.

TEXT TABLE X. Reasons for Not Seeking Help

	Per cent
Total number of problems with no consultation	**100**
Reasons:	
Not serious enough	40
Under control	30
Costs too much	4
Takes too much time	2
Other reasons	20
Unknown reasons	4

The two specific reasons that can be interpreted as barriers to access, namely, cost and time, are the least common reasons cited for not seeking help. Responses to the "other" category may also represent certain barriers to access or may reflect attitudes toward seeking help. However, the survey was not designed to evaluate accessibility to the health care system.

Reasons for not seeking help vary according to the nature of the underlying problem (see Table 92) and, in some cases, to the type of professional required, since not all services are covered under medical insurance. This also accounts for regional differences which are not shown. For relatively serious chronic conditions such as diabetes, thyroid disorders, hypertension or heart disease, most problems reported result in a consultation. Where no consultation takes place, the reason given is most often "under control", which is expected since most of these conditions involve drug-taking on a regular basis. For less serious acute problems such as respiratory infections or influenza, where consultations are less prevalent, the most common reason given is "not serious enough". Cost is a clear deterrent only in the case of sight disorders and dental trouble, both of which usually involve consultations which may not be covered by health insurance. As well, a consultation for these conditions may be followed by the purchase of an appliance, such as lenses or dentures, which may also be uninsured.

The relation of education and income to reasons for not seeking help are investigated in Tables 93 and 94 which show the numbers of people reporting a reason at least once rather than the type of reason associated with various health problems as in Table 92. (Since an individual could have reported more than one reason for not seeking help, the columns may add to more than the total population.) The total number of people reporting at least one problem with no consultation during the

past 12 months is estimated to be 4,227,000 in the population as a whole. Although there are few cases when distributed over education and income groups, persons with lower education levels and lower incomes appear to be over-represented among those persons who state that lack of time discourages them from seeking a consultation. The effect of community size was also investigated, although not shown here, revealing that cost was a more important deterrent in seeking help for rural areas or communities of less than 1,000 population.

Drug Use

Information on the use of medicines, pills or ointments within the past two days was collected in the interview component of the survey. Hence, the use of the word "drug" in this section will refer broadly to all of these, whether they be prescription or not, including vitamins or minerals. Respondents were asked whether they had taken any of nine categories of drugs or any others not specified in the list (see Appendix I). If a drug was reported, the respondent was then asked whether or not it was taken on the advice of a medical doctor. Overall, 48% of the population report taking drugs during the past two days and for those taking drugs, 60% report taking at least one drug on advice.

The proportion of the population reporting each class of drug along with the proportion for each class taken on medical advice is summarized in Text Table XI. It should be noted that medical advice refers to advice offered by physicians only and is not restricted to prescriptions.

TEXT TABLE XI. Drug Use

Class of drug	Proportion of the population reporting	Proportion of drugs taken on advice of a medical doctor
	per cent	
Vitamins and minerals	22.4	32.2
Pain relievers	13.6	27.9
Heart or blood pressure medicine	6.8	99.4
Cough or cold remedies	6.3	37.2
Skin ointments	5.6	67.3
Tranquilizers or sleeping pills	4.8	97.9
Stomach remedies	3.2	60.7
Antibiotics	2.7	98.6
Laxatives	2.6	50.7
Other drugs	7.5	95.7

The use of drugs varies significantly by sex as can be seen in Table 95. A significantly greater proportion of females (55%) use drugs of all classes than do males (41%), most notably for tranquilizers or sleeping pills and laxatives where rates of drug use are more than double that of males. Drugs listed in the "other" category are most commonly birth control pills, female hormones and drugs for diabetes or thyroid conditions. In addition to the greater prevalence of drug-taking in general among women, a greater proportion of these drugs are taken on the advice of a medical doctor for females than for males (Table 97).

The pattern of drug use by age is similar to that for many other health-related variables discussed in this report. The proportion taking drugs is high in the very young (59% of the 0-4 year age group), lower for young adults (34% of the 15-19 year age group) and increases steadily with the elder age groups (72% of those 65 and over). The proportion of people taking drugs on medical advice follows the same pattern with age as does drug use in general (see Tables 95 and 96).

A summary of the prevalence of drug use by class of drug, age and sex can be seen in Figure VII which also shows the proportion of drugs, for each class, taken on medical advice for the all-ages group.

Although rather high proportions of the population report drug use, not all of this behaviour is consequent to a particular health problem. In fact, for those people reporting drug use, more than one-quarter report no associated health problems. A health problem was associated with drug use only if an individual had taken the drug at least once a week over the past month. Nearly one-fifth of the population reports multiple drug-taking (see Table 96). The proportion of females taking three or more types of drugs is significantly higher than for males (9% versus 4%) and increases markedly with age. For the age group 65 years and over, 13% of males and 25% of females report taking three or more drugs simultaneously.[1]

Some interesting observations can be made by examining the relationship between tranquilizer or sleeping pill use and emotional well-being (Table 98). One measure of emotional health is the Negative Affect Scale (see Chapter VII) where higher scores indicate greater unhappiness. In general, those taking tranquilizers or sleeping pills scored highly negative on the scale indicating a relatively high level of emotional distress. Conversely, for those not taking tranquilizers, a greater proportion indicate a better level of emotional well-being. There are no differences in the proportions scoring moderate, whether or not they took tranquilizers. A significantly larger proportion of females report taking tranquilizers than do males, regardless of Negative Affect scores. In addition, a greater proportion of females score highly negative on the Negative Affect Scale than do males regardless of tranquilizer use. However, for those taking tranquilizers or sleeping pills and scoring highly negative, the sex differences are not statistically significant. One final observation from Table 98 is that the unknown category, reflecting those who skipped these questions, is higher for those taking tranquilizers. It is a reasonable assumption that those who were emotionally unhappy found the negative questions uncomfortable and therefore skipped them. If this were the case, then the apparent relationship between tranquilizer or sleeping pill use and Negative Affect would be even stronger.

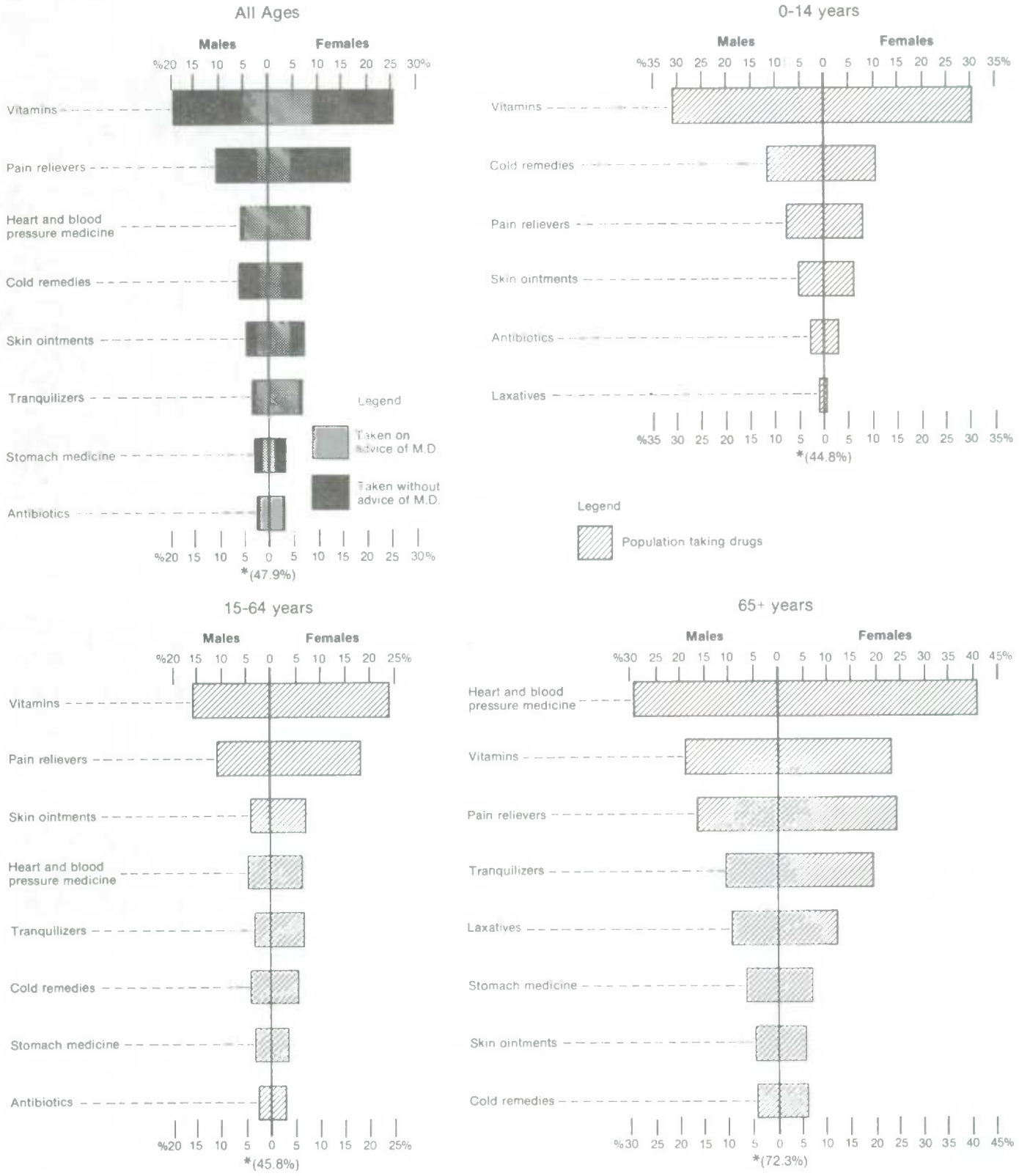
Female Health Practices

Selected female health practices and associated risks (such as the use of birth control pills or hormones and smoking),

Figure VII

Proportion of the Population Taking Drugs by Class of Drug and Sex, for Selected Age Groups, Canada 1978-79

(With and Without Medical Advice for All Age Groups)



*Proportion of population using at least one drug.

frequency of the Pap smear test and of breast self-examination are investigated in Tables 99 through 102. This information was collected in the self-completed questionnaire which probably provides more reliable data for questions of a personal nature, and only applies to the population aged 15 and over.

Twenty-two per cent of women aged 15-44 report taking birth control pills (Table 99). Reported birth control pill use is significantly higher from the self-completed questionnaire than from the global drug use section included in the interview, indicating a higher response for confidential reporting. The proportion of females taking birth control pills is significantly higher for those with post-secondary education and is most common among women aged 20-24. Other female hormone pills, on the other hand, are most commonly taken by women aged 45-64 and usage shows no variation with education.

Epidemiologists have linked the combination of cigarettes and birth control pills to an increased risk of heart attacks and strokes.[2] Table 100 investigates the smoking habits of women according to their usage of birth control pills and hormones. It would appear that the proportion of women taking birth control pills is higher among smokers than non-smokers although the differences are not statistically significant. What is important is that, regardless of age, the increased risk is either unknown or ignored since smoking habits are similar regardless of birth control pill usage. A similar situation occurs for users of other hormone pills, although older age groups are affected where small proportions of females smoke.

The proportion of females aged 15 years and over reporting a Pap smear test during the past year is 42% while 21% have never had one (Table 101). Almost one half of those who have never had a test are aged 15-19 and presumably at lower risk. Women with higher educational levels are more likely to have had a test within the past year but it should be noted that a majority of all women aged 15 and over have only secondary school or less education. In spite of the findings of a task force on cervical cancer screening programs[3] which stressed the importance of tests for older women, the proportion of women having an annual test decreases markedly after age 45.

A clear relationship also exists between level of education and frequency of breast self-examination, as reported in Table 102. Whether it be monthly, quarterly or less often, 60% of females aged 14 years and over report conducting breast self-examinations although only 21% perform one on a monthly basis. For those with a degree or diploma, the corresponding proportions are 76% and 25% respectively. For those with secondary school or less education, 41% report that they either never conduct an examination or do not know how. However, almost one third of this group are in the 15-19 year age group. Of greater concern is the fact that almost one-half (49%) of women aged 65 years and over with secondary school or less education do not conduct breast self-examinations. Even though the greatest number of deaths from breast cancer occur in the middle age groups (it is the leading cause of death for females from age 35 through 54), the risk of breast cancer continues to increase with age.

Discussion

Data presented in this chapter suggest that those with higher levels of income consult health professionals somewhat more frequently than those with lower incomes. Consultations for higher income groups are frequent when no associated health problem is reported. This is consistent with a study carried out in France.[4] A greater differential in the frequency of health professional consultations is accounted for by regional differences, reflecting variations in ratios of population per health professional and variations in health insurance coverage.[5] Some examples are worth noting. Ontario and British Columbia have more dentists per capita and also have the highest frequency of dental consultation. The Prairies have the highest frequency of consultations with an optometrist or optician. In the Atlantic provinces, there are very few chiropractic consultations probably because there are few chiropractors and there is generally little or no insurance coverage for chiropractic care. It is evident that the frequency of consultations with a health professional is very much related to the degree of insurance coverage and the number of professionals in a given area.

When compared with other data sources, the estimates of frequency of consultations with a medical doctor tend to be substantiated. For example, the *Régie de l'Assurance-maladie du Québec* states that 73% of the population contacted a physician during 1978[6] compared to an annual estimate of 71% from the Canada Health Survey. In 1968-69, the World Health Organization International Collaborative Study of Medical Care Utilization[7] surveyed five areas in Western Canada and found that between 65% and 73% of the population consulted a physician annually. It seems reasonable that the 1978-79 estimate of 76% should be slightly higher.

Even though large variations in the frequency of consultations with health professionals are noted, there is no apparent relationship to measures of health status nor is there any indication that people wishing a consultation have great difficulty in obtaining one. Although more than four million Canadians report at least one health problem with no associated health professional consultation, the reasons most often given were "not serious enough" or "under control". The reasons for not seeking help relating to cost and time were the least common and mostly associated with dental and vision trouble.

It should be noted that drug use refers to medicines, pills or ointments (both prescription and non-prescription) and thus represents a broad range of products including vitamins and minerals which are intended to maintain health rather than treat a condition. The proportion of the population reporting drug use (48%) is consistent with estimates from the WHO survey[7] carried out in Western Canada 10 years ago and tends to be lower than many other developed countries. Forty per cent of the population took self-prescribed drugs in the past two days; the most common self-prescribed drugs were vitamins, pain relievers, cold remedies and laxatives.

Both for consultations with a health professional and drug use, females consistently report a higher frequency while for both sexes the distribution by age follows a familiar "U" pattern (see Chapter VI). That is, very young children have a prevalence of consultations and drug use relatively higher than

adolescents and young adults whereas the rates increase dramatically with age for older adults and the elderly.

Direct comparisons with other data sources cannot be made for the female health practices studied, however some general indications can be examined. For birth control pill usage, if only the age group 15-44 is considered, the estimate of 22% taking the pill can be compared with a 1977 estimate of 19% based on sales figures.[6] In the case of the Pap smear test, the estimate of 42% of women aged 15 and over reporting a test during the past year can be compared with an estimate of 38% for 1971,[3] although the 1971 estimate is based on the number of tests performed during the year and would count twice those women having more than one test.

Female health practices reflect an awareness of prevention that is associated with education, however, this does not seem to affect smoking among those taking birth control pills, which presents an increased risk of heart attack or stroke.[2] Even though women with higher education are more likely to have regular Pap smear tests, or conduct regular breast self-examinations, it is important to realize that a majority of females aged 15 years and over have only a secondary school or less education.

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1 For further information on drug use among the elderly, see: Peterson, D. et al. Drug use and misuse among the elderly, *Journal of Drug Issues*, 1979, Vol. 9, pp. 5-26.

2 *Smoking and Health: A Report of the Surgeon General.* Washington: United States Department of Health, Education and Welfare, Public Health Service, 1979.

3 Cervical cancer screening programs: The Walton Report, *Canadian Medical Association Journal*, 1976, Vol. 114.

4 *Flamme, P. et Portonnier, J.-C. Le système de santé face aux risques graves, Revue Française des Affaires Sociales, octobre-décembre 1978.*

5 Comparison of Provincial Medical/Health Services Plans, *Canadian Hospital Directory.* Ottawa: Canadian Hospital Association, 1978.

6 *Statistiques Annuelles, 1978. Québec: Régie de l'Assurance-maladie du Québec, 1979.*

7 Josie, H. (ed.) *World Health Organization International Collaborative Study of Medical Care Utilization: Report on Basic Canadian Data.* Saskatoon: Department of Social and Preventive Medicine, University of Saskatchewan, 1973.

8 *Population Reports: Oral Contraceptives,* Series A, Number 5. Baltimore: Population Information Program, The John Hopkins University, January 1979.

TABLE 86. Population by Frequency of Consultations with a Medical Doctor During Last 12 Months, by Age and Sex, Canada, 1978-79

		Frequency of consultations					
		Total	No consultation	1-2 consultations	3-9 consultations	10 consultations and over	Unknown
		in thousands					
All ages:							
Both sexes	**No.**	**23,023**	**5,297**	**9,509**	**5,902**	**2,162**	**153**
	%	**100.0**	**23.0**	**41.3**	**25.6**	**9.4**	**.7**
Male	**No.**	**11,417**	**3,194**	**4,807**	**2,571**	**762**	**83**
	%	**100.0**	**28.0**	**42.1**	**22.5**	**6.7**	**.7**
Female	**No.**	**11,606**	**2,103**	**4,702**	**3,331**	**1,400**	**70**
	%	**100.0**	**18.1**	**40.5**	**28.7**	**12.1**	**.6**
Less than 5:							
Male	No.	880	71	336	410	61	--
	%	100.0	8.0	38.1	46.6	6.9	--
Female	No.	838	94	340	336	67	--
	%	100.0	11.2	40.5	40.1	8.0	--
5-9:							
Male	No.	914	183	468	211	49	--
	%	100.0	20.0	51.2	23.1	5.4	--
Female	No.	868	213	412	205	31	--
	%	100.0	24.6	47.5	23.6	3.6	--
10-14:							
Male	No.	1,038	332	481	181	41	--
	%	100.0	32.0	46.3	17.4	4.0	--
Female	No.	992	350	455	147	36	--
	%	100.0	35.3	45.9	14.8	3.6	--
15-19:							
Male	No.	1,187	481	475	176	52	--
	%	100.0	40.5	40.0	14.8	4.3	--
Female	No.	1,146	330	463	262	80	--
	%	100.0	28.8	40.4	22.9	7.0	--
20-24:							
Male	No.	1,106	352	475	226	38	14
	%	100.0	31.9	43.0	20.4	3.4	1.3
Female	No.	1,108	128	466	377	125	--
	%	100.0	11.6	42.1	34.0	11.3	--
25-44:							
Male	No.	3,230	1,047	1,445	569	137	32
	%	100.0	32.4	44.7	17.6	4.2	1.0
Female	No.	3,242	450	1,367	944	463	18
	%	100.0	13.9	42.2	29.1	14.3	.5
45-64:							
Male	No.	2,174	579	838	513	227	17
	%	100.0	26.6	38.6	23.6	10.4	.8
Female	No.	2,279	385	863	674	345	11
	%	100.0	16.9	37.9	29.6	15.1	.5
65 and over:							
Male	No.	887	149	290	285	157	--
	%	100.0	16.8	32.7	32.1	17.7	--
Female	No.	1,132	152	336	385	253	6
	%	100.0	13.4	29.6	34.0	22.4	.6

TABLE 87. Population by Frequency of Consultations with a Medical Doctor During Last 12 Months, by Sex, Canada and Regions, 1978-79

		Frequency of consultations					
		Total	No consultation	1-2 consultations	3-9 consultations	10 consultations and over	Unknown
		in thousands					
Canada:							
Both sexes	**No.**	**23,023**	**5,297**	**9,509**	**5,902**	**2,162**	**153**
	%	**100.0**	**23.0**	**41.3**	**25.6**	**9.4**	**.7**
Male	**No.**	**11,417**	**3,194**	**4,807**	**2,571**	**762**	**83**
	%	**100.0**	**28.0**	**42.1**	**22.5**	**6.7**	**.7**
Female	**No.**	**11,606**	**2,103**	**4,702**	**3,331**	**1,400**	**70**
	%	**100.0**	**18.1**	**40.5**	**28.7**	**12.1**	**.6**
Atlantic region:							
Male	No.	1,092	344	430	241	67	10
	%	100.0	31.5	39.4	22.1	6.1	.9
Female	No.	1,098	229	426	318	114	11
	%	100.0	20.9	38.7	29.0	10.4	1.0
Quebec:							
Male	No.	3,059	1,074	1,265	582	132	--
	%	100.0	35.1	41.4	19.0	4.3	--
Female	No.	3,139	730	1,262	799	344	--
	%	100.0	23.3	40.2	25.4	11.0	--
Ontario:							
Male	No.	4,121	940	1,766	1,031	356	28
	%	100.0	22.8	42.8	25.0	8.7	.7
Female	No.	4,215	614	1,688	1,303	584	26
	%	100.0	14.6	40.0	30.9	13.9	.6
Prairie region:							
Male	No.	1,914	499	843	427	113	33
	%	100.0	26.1	44.0	22.3	5.9	1.7
Female	No.	1,905	323	808	531	216	26
	%	100.0	17.0	42.4	27.9	11.3	1.4
British Columbia:							
Male	No.	1,230	336	503	290	93	--
	%	100.0	27.3	40.9	23.6	7.6	--
Female	No.	1,248	207	518	379	142	--
	%	100.0	16.5	41.5	30.4	11.3	--

TABLE 88. Population by Frequency of Consultations with a Dentist During Last 12 Months, by Age and Sex, Canada, 1978-79

		Frequency of consultations					
		Total	No consultation	1-2 consultations	3-5 consultations	6 consultations and over	Unknown
		in thousands					
All ages:							
Both sexes	**No.**	**23,023**	**11,443**	**8,909**	**1,900**	**643**	**128**
	%	**100.0**	**49.7**	**38.7**	**8.3**	**2.8**	**.8**
Male	**No.**	**11,417**	**5,892**	**4,319**	**860**	**272**	**73**
	%	**100.0**	**51.6**	**37.8**	**7.5**	**2.4**	**.6**
Female	**No.**	**11,606**	**5,551**	**4,589**	**1,039**	**372**	**55**
	%	**100.0**	**47.8**	**39.5**	**9.0**	**3.2**	**.5**
Less than 5:							
Male	No.	880	715	140	17	5	--
	%	100.0	81.2	15.9	1.9	.6	--
Female	No.	838	653	152	28	-	--
	%	100.0	77.9	18.1	3.3	-	--
5-9:							
Male	No.	914	229	542	122	19	--
	%	100.0	25.1	59.2	13.3	2.1	--
Female	No.	868	194	508	127	--	--
	%	100.0	22.3	58.5	14.7	--	--
10-14:							
Male	No.	1,038	274	598	114	47	--
	%	100.0	26.4	57.6	11.0	4.5	--
Female	No.	992	218	587	106	76	--
	%	100.0	22.0	59.2	10.6	7.7	--
15-19:							
Male	No.	1,187	502	535	111	35	5
	%	100.0	42.2	45.1	9.3	2.9	.4
Female	No.	1,146	386	544	151	53	--
	%	100.0	33.7	47.5	13.2	4.8	--
20-24:							
Male	No.	1,106	560	426	74	27	19
	%	100.0	50.6	38.5	6.7	2.5	1.7
Female	No.	1,108	465	475	119	40	--
	%	100.0	41.9	42.9	10.7	3.6	--
25-44:							
Male	No.	3,230	1,624	1,228	262	95	21
	%	100.0	50.3	38.0	8.1	3.0	.6
Female	No.	3,242	1,418	1,396	310	108	--
	%	100.0	43.7	43.1	9.6	3.3	--
45-64:							
Male	No.	2,174	1,302	685	135	36	15
	%	100.0	59.9	31.5	6.2	1.7	.7
Female	No.	2,279	1,342	725	157	50	--
	%	100.0	58.9	31.8	6.9	2.2	--
65 and over:							
Male	No.	887	686	165	26	--	--
	%	100.0	77.3	18.6	2.9	--	--
Female	No.	1,132	875	203	42	12	--
	%	100.0	77.3	17.9	3.7	1.1	--

TABLE 89. Population by Frequency of Consultations with a Dentist During Last 12 Months, by Sex, Canada and Regions, 1978-79

		Frequency of consultations					
		Total	No consultation	1-2 consultations	3-5 consultations	6 consultations and over	Unknown
		in thousands					
Canada:							
Both sexes	**No.**	**23,023**	**11,443**	**8,909**	**1,900**	**643**	**128**
	%	**100.0**	**49.7**	**38.7**	**8.3**	**2.8**	**.6**
Male	**No.**	**11,417**	**5,892**	**4,319**	**860**	**272**	**73**
	%	**100.0**	**51.6**	**37.8**	**7.5**	**2.4**	**.6**
Female	**No.**	**11,606**	**5,551**	**4,589**	**1,039**	**372**	**55**
	%	**100.0**	**47.8**	**39.5**	**9.0**	**3.2**	**.5**
Atlantic region:							
Male	No.	1,092	647	338	73	25	10
	%	100.0	59.3	30.9	6.7	2.3	.9
Female	No.	1,098	618	368	76	29	8
	%	100.0	56.2	33.5	6.9	2.6	.7
Quebec:							
Male	No.	3,059	1,813	1,006	183	52	..
	%	100.0	59.3	32.9	6.0	1.7	..
Female	No.	3,139	1,708	1,107	233	75	..
	%	100.0	54.4	35.3	7.4	2.4	..
Ontario:							
Male	No.	4,121	1,875	1,801	313	106	26
	%	100.0	45.5	43.7	7.6	2.6	.6
Female	No.	4,215	1,785	1,856	426	131	..
	%	100.0	42.4	44.0	10.1	3.1	..
Prairie region:							
Male	No.	1,914	983	706	151	47	27
	%	100.0	51.4	36.9	7.9	2.4	1.4
Female	No.	1,905	915	758	161	59	..
	%	100.0	48.0	39.8	8.5	3.1	..
British Columbia:							
Male	No.	1,230	573	469	140	42	..
	%	100.0	46.6	38.1	11.4	3.4	..
Female	No.	1,248	524	500	142	79	..
	%	100.0	42.0	40.1	11.4	6.3	..

TABLE 90. Population by Consultations with a Health Professional During Last Two Weeks, by Age and Sex, Canada, 1978-79

		Consultations in last 2 weeks			
		Total	No consultation	Consultation without problem	Consultation with a problem
		in thousands			
All ages:					
Both sexes	**No.**	**23,023**	**17,906**	**1,737**	**3,380**
	%	**100.0**	**77.8**	**7.5**	**14.7**
Male	**No.**	**11,417**	**9,331**	**684**	**1,402**
	%	**100.0**	**81.7**	**6.0**	**12.3**
Female	**No.**	**11,606**	**8,575**	**1,053**	**1,978**
	%	**100.0**	**73.9**	**9.1**	**17.0**
Less than 5:					
Male	No.	880	704	75	101
	%	100.0	80.0	8.5	11.5
Female	No.	838	625	70	143
	%	100.0	74.5	8.4	17.1
5-9:					
Male	No.	914	721	76	118
	%	100.0	78.8	8.3	12.9
Female	No.	868	711	64	93
	%	100.0	81.9	7.3	10.7
10-14:					
Male	No.	1,038	838	89	111
	%	100.0	80.8	8.5	10.7
Female	No.	992	799	92	101
	%	100.0	80.6	9.3	10.1
15-19:					
Male	No.	1,187	1,015	53	120
	%	100.0	85.5	4.4	10.1
Female	No.	1,146	906	82	158
	%	100.0	79.1	7.1	13.8
20-24:					
Male	No.	1,106	911	58	137
	%	100.0	82.4	5.2	12.4
Female	No.	1,108	775	133	200
	%	100.0	70.0	12.0	18.0
25-44:					
Male	No.	3,230	2,728	162	340
	%	100.0	84.4	5.0	10.5
Female	No.	3,242	2,324	348	570
	%	100.0	71.7	10.7	17.6
45-64:					
Male	No.	2,174	1,732	119	323
	%	100.0	79.7	5.5	14.8
Female	No.	2,279	1,665	163	451
	%	100.0	73.0	7.2	19.8
65 and over:					
Male	No.	887	682	53	152
	%	100.0	76.9	6.0	17.1
Female	No.	1,132	770	100	262
	%	100.0	68.0	8.8	23.2

TABLE 91. Population by Consultations with a Health Professional During Last Two Weeks, by Economic Family Income and Sex, Canada, 1978-79

		Consultations in last 2 weeks with a health professional			
		Total	No consultation	Consultation without problem	Consultation with a problem
		in thousands			
Economic family income:					
Both sexes	**No.**	**23,023**	**17,906**	**1,737**	**3,380**
	%	**100.0**	**77.8**	**7.5**	**14.7**
Male	**No.**	**11,417**	**9,331**	**684**	**1,402**
	%	**100.0**	**81.7**	**6.0**	**12.3**
Female	**No.**	**11,606**	**8,575**	**1,053**	**1,978**
	%	**100.0**	**73.9**	**9.1**	**17.0**
First quintile:					
Both sexes	No.	4,335	3,365	304	666
	%	100.0	77.6	7.0	15.4
Male	No.	1,994	1,616	105	273
	%	100.0	81.1	5.3	13.7
Female	No.	2,341	1,748	199	394
	%	100.0	74.7	8.5	16.8
Second quintile:					
Both sexes	No.	4,334	3,382	303	650
	%	100.0	78.0	7.0	15.0
Male	No.	2,113	1,713	115	286
	%	100.0	81.1	5.4	13.5
Female	No.	2,221	1,669	188	364
	%	100.0	75.1	8.5	16.4
Third quintile:					
Both sexes	No.	4,335	3,408	333	594
	%	100.0	78.6	7.7	13.7
Male	No.	2,126	1,739	138	249
	%	100.0	81.8	6.5	11.7
Female	No.	2,209	1,669	195	345
	%	100.0	75.6	8.8	15.6
Fourth quintile:					
Both sexes	No.	4,335	3,338	358	638
	%	100.0	77.0	8.3	14.7
Male	No.	2,151	1,774	135	242
	%	100.0	82.5	6.3	11.3
Female	No.	2,184	1,564	223	396
	%	100.0	71.6	10.2	18.1
Fifth quintile:					
Both sexes	No.	4,335	3,292	367	677
	%	100.0	75.9	8.5	15.6
Male	No.	2,306	1,860	156	290
	%	100.0	80.7	6.7	12.6
Female	No.	2,029	1,432	211	387
	%	100.0	70.5	10.4	19.0
Unknown:					
Both sexes	No.	1,349	1,122	72	155
	%	100.0	83.2	5.3	11.5
Male	No.	727	629	36	62
	%	100.0	86.5	4.9	8.6
Female	No.	622	493	36	93
	%	100.0	79.3	5.9	14.9

TABLE 92. Health Problems by Reasons for Not Seeking Help, by Type of Health Problem, Canada, 1978-79

		Total number of problems	Problems with consultation	Reasons for not seeking help					
				Not serious enough	Under control	Costs too much	Takes too much time	Other	Unknown
		in thousands							
Type of health problem									
Total	**No.**	**25,526**	**16,802**	**3,458**	**2,613**	**356**	**212**	**1,704**	**380**
	%	**100.0**	**65.8**	**13.5**	**10.2**	**1.4**	**.8**	**6.7**	**1.5**
Mental disorders	No.	1,000	855	34	70	..	..	29	11
	%	100.0	85.6	3.4	7.0	..	..	2.9	1.1
Diabetes	No.	379	345	..	17	-	-	..	..
	%	100.0	91.1	..	4.5	-	-	..	..
Thyroid disorders	No.	297	214	13	53	..	..	..	..
	%	100.0	72.1	4.5	17.9	..	..	..	..
Anemia	No.	417	319	26	52	..	..	..	..
	%	100.0	76.5	6.2	12.4	..	..	..	..
Headache	No.	1,102	674	170	133	..	14	92	14
	%	100.0	61.2	15.5	12.0	..	1.3	8.3	1.3
Sight disorders	No.	1,200	607	169	60	78	34	228	25
	%	100.0	50.6	14.1	5.0	6.5	2.8	19.0	2.0
Hearing disorders	No.	1,028	472	236	67	20	24	188	22
	%	100.0	45.9	23.0	6.5	2.0	2.3	18.2	2.1
Hypertension	No.	1,551	1,422	26	52	-	..	14	25
	%	100.0	91.7	1.7	3.4	-	..	.9	1.6
Heart disease	No.	847	758	19	44	-	..	17	7
	%	100.0	89.5	2.2	5.2	-	..	2.0	.9
Acute respiratory	No.	781	403	321	25	..	-	19	12
	%	100.0	51.7	41.1	3.2	..	-	2.5	1.5
Influenza	No.	680	301	310	29	..	..	18	18
	%	100.0	44.3	45.7	4.2	..	..	2.7	2.7
Bronchitis and emphysema	No.	562	417	57	50	-	..	25	..
	%	100.0	74.2	10.2	8.9	-	..	4.5	..
Asthma	No.	547	368	62	96	-	..	16	..
	%	100.0	67.2	11.4	17.5	-	..	2.9	..
Hay fever and other allergies	No.	2,157	1,056	501	462	..	16	90	29
	%	100.0	49.0	23.3	21.4	..	.7	4.2	1.3
Dental problem	No.	1,697	921	229	40	233	41	203	30
	%	100.0	54.3	13.5	2.3	13.7	2.4	12.0	1.7
Gastric and duodenal ulcers	No.	482	310	31	119	..	..	10	..
	%	100.0	64.3	6.4	24.6	..	..	2.0	..
Digestive disorders	No.	687	470	91	77	..	..	36	10
	%	100.0	68.4	13.2	11.1	..	..	5.3	1.5
Skin disorders	No.	2,064	1,244	271	389	..	..	123	27
	%	100.0	60.3	13.1	18.9	..	..	6.0	1.3
Arthritis and rheumatism	No.	2,440	1,431	585	214	..	13	165	28
	%	100.0	58.7	24.0	8.8	..	.5	6.8	1.2
Limb and joint disorders	No.	2,334	1,538	151	342	..	16	233	52
	%	100.0	65.9	6.5	14.6	..	.7	10.0	2.2
Trauma	No.	616	507	34	31	..	..	31	..
	%	100.0	82.3	5.5	5.0	..	..	5.1	..
Other	No.	2,658	2,170	118	191	4	13	138	24
	%	100.0	81.6	4.4	7.2	.2	0.5	5.2	0.9

TABLE 93. Population by Reasons for Not Seeking Help, by Age and Education, Canada, 1978-79

Education		Reasons for not seeking help						
		Total population	Not serious enough	Time	Cost	Under control	Other	Unknown
		in thousands						
All ages:								
Total	**No.**	**23,023**	**2,814**	**113**	**149**	**2,112**	**1,238**	**64**
	%	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Baby/Child	**No.**	**2,385**	**120**	**--**	**--**	**50**	**15**	**--**
	%	**10.4**	**4.3**	**--**	**--**	**2.4**	**1.2**	**--**
Secondary or less	**No.**	**15,950**	**2,018**	**101**	**126**	**1,559**	**971**	**47**
	%	**69.3**	**71.7**	**89.9**	**84.9**	**73.8**	**78.5**	**73.9**
Some post-secondary	**No.**	**1,448**	**199**	**--**	**--**	**145**	**89**	**--**
	%	**6.3**	**7.1**	**--**	**--**	**6.9**	**7.2**	**--**
Degree or diploma	**No.**	**3,037**	**460**	**--**	**15**	**342**	**154**	**--**
	%	**13.2**	**16.4**	**--**	**9.8**	**16.2**	**12.4**	**--**
Education unknown	**No.**	**203**	**16**	**.**	**.**	**16**	**8**	**--**
	%	**.9**	**.6**	**.**	**.**	**.8**	**.7**	**--**
Less than 15:								
Total	No.	5,531	354	--	--	195	58	--
	%	24.0	12.6	--	--	9.2	4.7	--
Baby/Child	No.	2,385	120	--	--	50	15	--
	%	10.4	4.3	--	--	2.4	1.2	--
Secondary or less	No.	3,117	230	1	--	142	43	--
	%	13.5	8.2	1.3	--	6.7	3.5	--
Education unknown	No.	29	--	.	.	--	.	--
	%	.1	--	.	.	--	.	--
15-64:								
Total	No.	15,473	2,051	86	130	1,611	935	42
	%	67.2	72.9	76.3	87.1	76.3	75.6	65.0
Secondary or less	No.	11,106	1,440	77	108	1,154	707	30
	%	48.2	51.2	67.9	72.7	54.6	57.1	46.9
Some post-secondary	No.	1,367	177	--	--	131	82	--
	%	5.9	6.3	--	--	6.2	6.6	--
Degree or diploma	No.	2,836	424	--	14	315	140	--
	%	12.3	15.1	--	9.7	14.9	11.3	--
Education unknown	No.	163	10	.	--	10	--	--
	%	.7	.4	.	--	.5	--	--
65 and over:								
Total	No.	2,019	408	25	15	306	244	14
	%	8.8	14.5	22.1	10.4	14.5	19.8	21.8
Secondary or less	No.	1,727	348	23	15	263	222	14
	%	7.5	12.4	20.8	10.0	12.5	17.9	21.6
Some post-secondary	No.	81	22	.	--	14	--	.
	%	.4	.8	.	--	.7	--	.
Degree or diploma	No.	200	37	--	--	26	14	.
	%	9	1.3	--	--	1.2	1.1	.
Education unknown	No.	10	--	.	.	--	--	.
	%	.0	--	.	.	--	--	.

TABLE 94. Population by Reasons for Not Seeking Help, by Economic Family Income Quintiles, Canada and Regions, 1978-79

		Reasons for not seeking help						
		Total population	Not serious enough	Time	Cost	Under control	Other	Unknown
		in thousands						
Canada								
Total	**No.**	**23,023**	**2,814**	**113**	**149**	**2,112**	**1,238**	**64**
	%	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
First quintile	**No.**	**4,335**	**618**	**55**	**32**	**425**	**322**	**11**
	%	**18.8**	**22.0**	**48.5**	**21.7**	**20.1**	**26.0**	**17.4**
Second quintile	**No.**	**4,334**	**459**	**20**	**23**	**328**	**220**	**17**
	%	**18.8**	**16.3**	**18.0**	**15.2**	**15.5**	**17.7**	**26.2**
Third quintile	**No.**	**4,335**	**497**	**19**	**27**	**397**	**195**	**12**
	%	**18.8**	**17.7**	**16.7**	**18.1**	**18.8**	**15.8**	**18.1**
Fourth quintile	**No.**	**4,335**	**493**	**..**	**29**	**401**	**225**	**..**
	%	**18.8**	**17.5**	**..**	**19.4**	**19.0**	**18.2**	**..**
Fifth quintile	**No.**	**4,335**	**625**	**..**	**31**	**463**	**227**	**..**
	%	**18.8**	**22.2**	**..**	**21.0**	**21.9**	**18.3**	**..**
Unknown	**No.**	**1,349**	**121**	**..**	**7**	**99**	**48**	**..**
	%	**5.9**	**4.3**	**..**	**4.6**	**4.7**	**3.9**	**..**
Atlantic region:								
Total	No.	2,191	288	17	16	201	125	12
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0
First quintile	No.	817	106	11	6	71	51	5
	%	37.3	36.7	64.8	36.5	35.3	40.9	36.8
Second quintile	No.	523	60	..	..	48	30	..
	%	23.9	21.0	..	..	23.7	24.2	..
Third quintile	No.	338	53	..	..	30	17	..
	%	15.4	18.6	..	..	15.0	13.9	..
Fourth quintile	No.	238	34	..	..	22	15	..
	%	10.9	11.8	..	..	11.1	12.3	..
Fifth quintile	No.	164	27	..	..	19	6	..
	%	7.5	9.5	..	..	9.2	4.8	..
Unknown	No.	111	7	.	..	11	5	.
	%	5.1	2.4	.	..	5.7	3.9	.
Quebec:								
Total	No.	6,198	659	56	45	294	414	..
	%	100.0	100.0	100.0	100.0	100.0	100.0	..
First quintile	No.	1,321	178	24	12	76	138	..
	%	21.3	27.0	43.0	27.8	26.0	33.3	..
Second quintile	No.	1,160	103	..	..	43	73	..
	%	18.7	15.7	..	..	14.6	17.6	..
Third quintile	No.	1,196	103	..	..	59	68	..
	%	19.3	15.6	..	..	20.2	16.3	..
Fourth quintile	No.	1,187	132	..	..	50	62	.
	%	19.1	20.1	..	..	17.2	15.0	.
Fifth quintile	No.	1,013	121	..	..	48	55	..
	%	16.4	18.3	..	..	15.7	13.2	..
Unknown	No.	322	22	..	..	19	19	..
	%	5.2	3.4	..	..	6.3	4.6	..

TABLE 94. Population by Reasons for Not Seeking Help, by Economic Family Income Quintiles, Canada and Regions, 1978-79 - Concluded

		Reasons for not seeking help						
		Total population	Not serious enough	Time	Cost	Under control	Other	Unknown
		in thousands						
Ontario								
Total	No.	8,336	942	23	32	810	349	..
	%	100.0	100.0	100.0	100.0	100.0	100.0	..
First quintile	No.	1,199	169	..	..	127	49	..
	%	14.4	17.9	..	..	15.7	14.1	..
Second quintile	No.	1,485	144	..	..	106	45	..
	%	17.8	15.3	..	..	13.1	12.7	..
Third quintile	No.	1,664	197	..	..	172	71	..
	%	20.0	20.9	..	..	21.2	20.2	..
Fourth quintile	No.	1,763	169	-	..	192	87	..
	%	21.1	18.0	-	..	23.7	24.8	..
Fifth quintile	No.	1,735	222	..	..	183	90	..
	%	20.8	23.6	..	..	22.5	25.8	..
Unknown	No.	490	..	-	-	31	..	-
	%	5.9	..	-	-	3.8	..	-
Prairie region								
Total	No.	3,820	558	9	32	428	178	18
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0
First quintile	No.	685	111	..	..	78	47	..
	%	17.9	19.8	..	..	18.3	26.1	..
Second quintile	No.	674	91	..	..	73	30	..
	%	17.7	16.4	..	..	17.0	17.0	..
Third quintile	No.	723	95	..	..	82	26	..
	%	18.9	16.9	..	..	19.2	14.3	..
Fourth quintile	No.	684	94	..	..	77	31	..
	%	17.9	16.8	..	..	17.9	17.2	..
Fifth quintile	No.	701	127	-	..	89	34	..
	%	18.4	22.8	-	..	20.8	18.9	..
Unknown	No.	351	41	..	..	29	..	-
	%	9.2	7.4	..	..	6.8	..	-
British Columbia								
Total	No.	2,479	368	..	25	379	171	..
	%	100.0	100.0	..	100.0	100.0	100.0	..
First quintile	No.	313	56	..	..	73	..	..
	%	12.6	15.2	..	..	19.2	..	..
Second quintile	No.	492	59	..	..	58	42	..
	%	19.9	16.1	..	..	15.4	24.4	..
Third quintile	No.	414	50	..	-	54	14	..
	%	16.7	13.6	..	-	14.1	8.2	..
Fourth quintile	No.	464	64	-	..	59	31	..
	%	18.7	17.5	-	..	15.6	18.0	..
Fifth quintile	No.	721	128	..	..	127	42	..
	%	29.1	34.8	..	..	33.4	24.8	..
Unknown	No.	75	10	-	..	..	..	..
	%	3.0	2.7	-	..	..	..	..

TABLE 95. Population by Class of Drug Use, by Age and Sex, Canada, 1978-79

		Class of drug use											
		Total	Pain reliever	Tranquil-izers or sleeping pills	Heart/ Blood pressure medicine	Anti-biotic	Stomach medicine	Laxative	Cold remedy	Skin ointment	Vitamins	Other drugs	Any drug use
		in thousands											
All ages:													
Both sexes	No.	23,023	3,138	1,096	1,564	618	726	592	1,450	1,293	5,167	1,800	11,021
	%	100.0	13.6	4.8	6.8	2.7	3.2	2.6	6.3	5.6	22.4	7.8	47.9
Male	No.	11,417	1,180	347	614	265	337	173	670	497	2,207	572	4,658
	%	100.0	10.3	3.0	5.4	2.3	2.9	1.5	5.9	4.4	19.3	5.0	40.8
Female	No.	11,606	1,958	749	950	352	389	419	780	796	2,960	1,229	6,363
	%	100.0	16.9	6.5	8.2	3.0	3.4	3.6	6.7	6.9	25.5	10.6	54.8
Less than 5:													
Male	No.	880	80	..	..	41	..	..	138	72	394	22	511
	%	100.0	9.1	..	..	4.6	..	..	15.6	8.2	44.7	2.5	58.0
Female	No.	838	81	..	.	39	..	..	103	69	383	19	502
	%	100.0	9.6	..	.	4.7	..	..	12.3	8.2	45.7	2.3	59.9
5-9:													
Male	No.	914	66	..	..	26	..	..	115	39	257	20	398
	%	100.0	7.2	..	..	2.8	..	..	12.6	4.2	28.1	2.2	43.5
Female	No.	868	54	..	..	26	..	..	101	38	227	15	349
	%	100.0	8.2	..	.	3.0	..	..	11.6	4.3	26.1	1.7	40.2
10-14:													
Male	No.	1,038	66	..	..	17	..	..	65	37	218	27	348
	%	100.0	6.4	..	..	1.7	..	..	6.3	3.6	21.0	2.6	33.6
Female	No.	992	92	..	..	18	..	..	81	59	213	23	370
	%	100.0	9.2	..	..	1.8	..	..	8.1	5.9	21.5	2.4	37.3
15-19:													
Male	No.	1,187	76	..	..	31	..	..	48	84	161	29	340
	%	100.0	6.4	..	..	2.6	..	..	4.0	7.1	13.6	2.5	28.6
Female	No.	1,146	127	..	..	35	13	..	55	102	228	47	450
	%	100.0	11.1	..	..	3.0	1.1	..	4.8	8.9	19.9	4.1	39.3
20-24:													
Male	No.	1,106	94	..	..	23	24	..	42	43	158	30	317
	%	100.0	8.5	..	..	2.1	2.1	..	3.8	3.9	14.3	2.7	28.8
Female	No.	1,108	162	25	..	39	27	18	66	97	292	106	558
	%	100.0	14.6	2.3	..	3.5	2.5	1.6	6.0	8.8	26.3	9.6	50.3
25-44:													
Male	No.	3,230	362	77	45	56	129	25	143	116	458	84	1,099
	%	100.0	11.2	2.4	1.4	1.7	4.0	.8	4.4	3.6	14.2	2.6	34.0
Female	No.	3,242	640	168	56	111	115	92	183	217	814	317	1,733
	%	100.0	19.8	5.2	1.7	3.4	3.6	2.8	5.6	6.7	25.1	9.8	53.5
45-64:													
Male	No.	2,174	293	143	307	56	95	37	81	65	395	194	1,057
	%	100.0	13.5	6.6	14.1	2.6	4.4	1.7	3.7	3.0	18.2	8.9	48.6
Female	No.	2,279	524	311	426	60	139	151	122	148	536	437	1,528
	%	100.0	23.0	13.7	18.7	2.6	6.1	6.6	5.3	6.5	23.5	19.2	67.1
65 and over:													
Male	No.	887	143	92	258	18	63	83	38	42	166	165	589
	%	100.0	16.1	10.4	29.1	1.8	7.1	9.3	4.3	4.7	18.8	18.6	66.4
Female	No.	1,132	279	223	463	25	81	140	69	66	266	263	872
	%	100.0	24.6	19.7	40.9	2.2	7.1	12.3	6.1	5.9	23.5	23.2	77.0

TABLE 96. Population by Variety of Drugs Taken, by Age and Sex, Canada, 1978-79

		Total	No drugs	One drug variety	Two drug varieties	Three drug varieties or more
		in thousands				
All ages:						
Both sexes	No.	**23,023**	**12,002**	**6,740**	**2,769**	**1,512**
	%	**100.0**	**52.1**	**29.3**	**12.0**	**6.6**
Male	No.	**11,417**	**6,759**	**3,081**	**1,100**	**476**
	%	**100.0**	**59.2**	**27.0**	**9.6**	**4.2**
Female	No.	**11,606**	**5,243**	**3,659**	**1,669**	**1,035**
	%	**100.0**	**45.2**	**31.5**	**14.4**	**8.9**
Less than 5:						
Male	No.	880	370	314	147	49
	%	100.0	42.0	35.7	16.7	5.6
Female	No.	838	336	350	110	42
	%	100.0	40.1	41.7	13.2	5.0
5-9:						
Male	No.	914	516	295	70	33
	%	100.0	56.5	32.3	7.6	3.6
Female	No.	868	519	256	71	22
	%	100.0	59.8	29.4	8.2	2.5
10-14:						
Male	No.	1,038	690	272	58	19
	%	100.0	66.4	26.2	5.6	1.8
Female	No.	992	622	275	71	24
	%	100.0	62.7	27.7	7.2	2.5
15-19:						
Male	No.	1,187	848	257	60	23
	%	100.0	71.4	21.7	5.0	1.9
Female	No.	1,146	696	305	117	28
	%	100.0	60.7	26.6	10.2	2.4
20-24:						
Male	No.	1,106	790	231	62	23
	%	100.0	71.4	20.9	5.6	2.1
Female	No.	1,108	551	350	153	55
	%	100.0	49.7	31.6	13.8	4.9
25-44:						
Male	No.	3,230	2,131	788	241	70
	%	100.0	66.0	24.4	7.5	2.2
Female	No.	3,242	1,509	1,038	465	230
	%	100.0	46.5	32.0	14.3	7.1
45-64:						
Male	No.	2,174	1,117	640	274	143
	%	100.0	51.4	29.5	12.6	6.6
Female	No.	2,279	751	751	426	352
	%	100.0	32.9	32.9	18.7	15.4
65 and over:						
Male	No.	887	298	284	188	117
	%	100.0	33.6	32.0	21.2	13.1
Female	No.	1,132	260	335	255	283
	%	100.0	23.0	29.6	22.5	25.0

TABLE 97. Population Using Drugs by Medical Advice, by Class of Drugs and Sex, Canada, 1978-79

Class of drug		Medical advice			
		Total	No drugs on advice	At least one drug on advice	Unknown
		in thousands			
Pain relievers:					
Male	No.	1,180	864	306	..
	%	100.0	73.2	25.9	..
Female	No.	1,958	1,380	569	7
	%	100.0	70.5	29.0	.34
Tranquilizers or sleeping pills:					
Male	No.	347	8	337	2
	%	100.0	2.4	97.0	.47
Female	No.	749	16	732	2
	%	100.0	2.13	97.6	.20
Heart or blood pressure:					
Male	No.	614	..	608	..
	%	100.0	..	98.9	..
Female	No.	950	..	946	..
	%	100.0	..	99.6	..
Antibiotics:					
Male	No.	264	..	259	..
	%	100.0	..	98.0	..
Female	No.	347	3	343	..
	%	100.0	.78	96.9	..
Stomach:					
Male	No.	332	144	186	..
	%	100.0	43.2	56.0	..
Female	No.	372	126	242	..
	%	100.0	33.9	64.9	..
Laxatives:					
Male	No.	154	72	82	..
	%	100.0	46.9	52.9	..
Female	No.	369	184	183	..
	%	100.0	50.0	49.7	..
Cold remedies:					
Male	No.	655	416	238	..
	%	100.0	63.4	36.3	..
Female	No.	743	458	282	..
	%	100.0	61.7	38.0	..

TABLE 97. Population Using Drugs by Medical Advice, by Class of Drug and Sex, Canada, 1978-79 – Concluded

Class of drug		Medical advice			
		Total	No drugs on advice	At least one drug on advice	Unknown
		in thousands			
Skin ointments:					
Male	No.	481	168	309	..
	%	100.0	35.0	64.1	..
Female	No.	756	227	523	..
	%	100.0	30.0	69.2	..
Vitamins:					
Male	No.	2,156	1,576	570	9
	%	100.0	73.1	26.4	.43
Female	No.	2,804	1,768	1,027	..
	%	100.0	63.0	36.6	..
Other:					
Male	No.	529	25	498	..
	%	100.0	4.7	94.1	..
Female	No.	1,064	31	1,028	..
	%	100.0	3.0	96.5	..

TABLE 98. Population 15 Years and Over by "Negative Affect Scale" Scores, by Use of Tranquilizers or Sleeping Pills and Sex, Canada, 1978-79

		Total	Highly negative	Moderate	Low	Unknown
		in thousands				
Tranquilizers or sleeping pills used:						
Total	**No.**	**1,035**	**100**	**575**	**225**	**134**
	%	**100.0**	**9.7**	**55.6**	**21.8**	**12.9**
Male	No.	322	26	180	77	39
	%	100.0	8.0	56.0	23.9	12.1
Female	No.	713	75	395	148	95
	%	100.0	10.5	55.4	20.8	13.3
No tranquilizers or sleeping pills used:						
Total	**No.**	**16,457**	**328**	**8,517**	**6,209**	**1,402**
	%	**100.0**	**2.0**	**51.8**	**37.7**	**8.5**
Male	No.	8,262	113	4,175	3,266	708
	%	100.0	1.4	50.5	39.5	8.6
Female	No.	8,195	215	4,343	2,943	694
	%	100.0	2.6	53.0	35.9	8.5

TABLE 99. Female Population 15 Years and Over by Use of Birth Control and Hormone Pills, by Age and Education, Canada, 1978-79

Education		Total	Birth control pills	Hormone pills	Neither	Unknown
		in thousands				
Age 15 and over:						
Total	**No.**	**8,907**	**1,243**	**449**	**6,970**	**246**
	%	**100.0**	**14.0**	**5.0**	**78.2**	**2.8**
Secondary or less	**No.**	**6,666**	**838**	**363**	**5,248**	**218**
	%	**100.0**	**12.6**	**5.4**	**78.7**	**3.3**
Some post-secondary	**No.**	**697**	**132**	**27**	**525**	**..**
	%	**100.0**	**18.9**	**3.9**	**75.4**	**..**
Degree or diploma	**No.**	**1,498**	**271**	**54**	**1,157**	**16**
	%	**100.0**	**18.1**	**3.6**	**77.3**	**1.0**
Unknown	**No.**	**47**	**..**	**..**	**39**	**.**
	%	**100.0**	**..**	**..**	**84.5**	**.**
15-19:						
Total	No.	1,146	198	..	924	22
	%	100.0	17.3	..	80.7	1.9
Secondary or less	No.	1,009	169	..	818	22
	%	100.0	16.7	..	81.1	2.1
Some post-secondary	No.	117	24	..	91	..
	%	100.0	21.0	..	77.8	..
Degree or diploma	No.	11	..	.	..	.
	%	100.0	..	.	..	.
Unknown	No.	..	..	.	..	.
	%	..	..	.	..	.
20-24:						
Total	No.	1,108	462	..	624	20
	%	100.0	41.7	..	56.3	1.8
Secondary or less	No.	674	290	..	367	..
	%	100.0	43.0	..	54.5	..
Some post-secondary	No.	179	61	..	113	..
	%	100.0	34.0	..	62.9	..
Degree or diploma	No.	250	110	.	140	.
	%	100.0	44.1	.	55.9	.
Unknown	No.	..	..	.	..	.
	%	..	..	.	..	.
25-44:						
Total	No.	3,242	523	78	2,593	48
	%	100.0	16.1	2.4	80.0	1.5
Secondary or less	No.	2,147	330	59	1,721	38
	%	100.0	15.4	2.7	80.2	1.7
Some post-secondary	No.	234	46	..	180	..
	%	100.0	19.5	..	76.8	..
Degree or diploma	No.	853	147	15	685	..
	%	100.0	17.2	1.7	80.3	..
Unknown	No.	8	..	.	..	.
	%	100.0	..	.	..	.
45-64:						
Total	No.	2,279	54	332	1,790	104
	%	100.0	2.4	14.6	78.5	4.5
Secondary or less	No.	1,888	43	275	1,473	97
	%	100.0	2.3	14.6	78.0	5.1
Some post-secondary	No.	107	..	18	85	..
	%	100.0	..	17.2	79.7	..
Degree or diploma	No.	264	..	34	217	..
	%	100.0	..	12.8	82.0	..
Unknown	No.	19	.	..	15	.
	%	100.0	.	..	78.4	.
65 and over:						
Total	No.	1,132	..	36	1,039	52
	%	100.0	..	3.1	91.7	4.6
Secondary or less	No.	948	..	28	868	45
	%	100.0	..	2.9	91.6	4.8
Some post-secondary	No.	60	.	..	57	..
	%	100.0	.	..	94.1	..
Degree or diploma	No.	119	..	..	109	..
	%	100.0	..	..	91.4	..
Unknown	No.	..	.	..	..	.
	%	..	.	..	..	.

TABLE 100. Female Population 15 Years and Over by Use of Birth Control and Hormone Pills, by Age and Type of Smoker, Canada, 1978-79

Type of smoker		Total	Birth control pills	Hormone pills	Neither	Unknown
		in thousands				
Age 15 and over:						
Total	**No.**	**8,907**	**1,243**	**449**	**6,970**	**246**
	%	**100.0**	**14.0**	**5.0**	**78.2**	**2.8**
Current and occasional	**No.**	**3,293**	**635**	**187**	**2,392**	**80**
	%	**100.0**	**19.3**	**5.7**	**72.6**	**2.4**
Former	**No.**	**1,624**	**266**	**85**	**1,256**	**17**
	%	**100.0**	**16.4**	**5.2**	**77.4**	**1.0**
Never smoked	**No.**	**3,409**	**301**	**143**	**2,900**	**65**
	%	**100.0**	**8.8**	**4.2**	**85.1**	**1.9**
Unknown	**No.**	**581**	**41**	**34**	**421**	**84**
	%	**100.0**	**7.0**	**5.9**	**72.6**	**14.5**
15-19:						
Total	No.	1,146	198	..	924	22
	%	100.0	17.3	..	80.7	1.9
Current and occasional	No.	459	131	..	317	..
	%	100.0	28.5	..	69.1	..
Former	No.	190	37	..	150	..
	%	100.0	19.7	..	78.8	..
Never smoked	No.	440	23	.	414	..
	%	100.0	5.2	.	94.3	..
Unknown	No.	56	..	.	43	..
	%	100.0	..	.	75.6	..
20-24:						
Total	No.	1,108	462	..	624	20
	%	100.0	41.7	..	56.3	1.8
Current and occasional	No.	549	249	..	291	..
	%	100.0	45.3	..	53.0	..
Former	No.	219	106	.	111	..
	%	100.0	48.6	.	50.5	..
Never smoked	No.	309	102	..	206	..
	%	100.0	33.0	..	66.7	..
Unknown	No.	31	..	.	16	..
	%	100.0	..	.	51.8	..
25-44:						
Total	No.	3,242	523	78	2,593	48
	%	100.0	16.1	2.4	80.0	1.5
Current and occasional	No.	1,337	231	46	1,043	17
	%	100.0	17.3	3.4	78.0	1.3
Former	No.	692	111	11	565	..
	%	100.0	16.0	1.6	81.6	..
Never smoked	No.	1,078	156	15	898	..
	%	100.0	14.5	1.4	83.3	..
Unknown	No.	134	25	..	87	17
	%	100.0	18.6	..	64.8	12.4
45-64:						
Total	No.	2,279	54	332	1,790	104
	%	100.0	2.4	14.6	78.5	4.5
Current and occasional	No.	777	23	131	588	35
	%	100.0	2.9	16.8	75.7	4.8
Former	No.	395	..	67	309	..
	%	100.0	..	17.0	78.2	..
Never smoked	No.	917	16	107	768	26
	%	100.0	1.7	11.7	83.8	2.8
Unknown	No.	189	..	27	124	35
	%	100.0	..	14.1	65.6	18.6
65 and over:						
Total	No.	1,132	..	36	1,039	52
	%	100.0	..	3.1	91.7	4.6
Current and occasional	No.	170	..	..	152	..
	%	100.0	..	..	89.4	..
Former	No.	127	.	..	121	.
	%	100.0	.	..	95.5	.
Never smoked	No.	665	..	20	614	27
	%	100.0	..	3.0	92.2	4.1
Unknown	No.	169	..	..	151	..
	%	100.0	..	..	89.3	..

TABLE 101. Female Population 15 Years and Over by Time Since Last Pap Smear Test, by Age and Education, Canada, 1978-79

Education		Total	Less than one year	1-2 years	More than two years	Never	Unknown
		in thousands					
Age 15 and over:							
Total	**No.**	**8,907**	**3,701**	**1,559**	**1,305**	**1,826**	**516**
	%	**100.0**	**41.6**	**17.5**	**14.7**	**20.5**	**5.8**
Secondary or less	**No.**	**6,666**	**2,512**	**1,168**	**1,028**	**1,493**	**465**
	%	**100.0**	**37.7**	**17.5**	**15.4**	**22.4**	**7.0**
Some post-secondary	**No.**	**697**	**333**	**113**	**61**	**157**	**33**
	%	**100.0**	**47.7**	**16.2**	**8.8**	**22.6**	**4.8**
Degree or diploma	**No.**	**1,498**	**839**	**272**	**205**	**165**	**16**
	%	**100.0**	**56.0**	**18.2**	**13.7**	**11.1**	**1.0**
Unknown	**No.**	**47**	**17**	--	**11**	--	--
	%	**100.0**	**37.4**	--	**24.3**	--	--
15-19:							
Total	No.	1,146	221	50	21	767	87
	%	100.0	19.3	4.4	1.8	67.0	7.6
Secondary or less	No.	1,009	189	42	21	677	82
	%	100.0	18.7	4.1	2.0	67.0	8.1
Some post-secondary	No.	117	28	--	-	76	--
	%	100.0	23.8	--	-	65.1	--
Degree or diploma	No.	11	--	-	-	--	-
	%	100.0	--	-	-	--	-
Unknown	No.	--	--	--	-	--	-
	%	--	--	--	-	--	-
20-24:							
Total	No.	1,108	692	152	36	193	35
	%	100.0	62.4	13.7	3.3	17.4	3.2
Secondary or less	No.	674	431	103	15	103	23
	%	100.0	64.0	15.2	2.3	15.2	3.3
Some post-secondary	No.	179	104	14	--	43	--
	%	100.0	58.2	8.0	--	23.8	--
Degree or diploma	No.	250	153	34	--	47	--
	%	100.0	61.3	13.8	--	18.6	--
Unknown	No.	--	--	--	-	--	-
	%	--	--	--	-	--	-
25-44:							
Total	No.	3,242	1,809	709	443	185	97
	%	100.0	55.8	21.9	13.7	5.7	3.0
Secondary or less	No.	2,147	1,114	494	326	125	88
	%	100.0	51.9	23.0	15.2	5.8	4.1
Some post-secondary	No.	234	140	56	22	--	--
	%	100.0	59.7	23.8	9.5	--	--
Degree or diploma	No.	853	549	158	92	50	--
	%	100.0	64.4	18.6	10.8	5.9	--
Unknown	No.	8	--	--	--	--	-
	%	100.0	--	--	--	-	-
45-64:							
Total	No.	2,279	814	494	542	272	157
	%	100.0	35.7	21.7	23.8	11.9	6.9
Secondary or less	No.	1,888	641	404	454	239	150
	%	100.0	34.0	21.4	24.1	12.6	7.9
Some post-secondary	No.	107	51	25	20	--	--
	%	100.0	47.9	23.5	18.7	--	--
Degree or diploma	No.	264	113	62	61	24	--
	%	100.0	42.8	23.6	23.2	9.3	--
Unknown	No.	19	--	--	--	--	--
	%	100.0	--	--	--	--	--
65 and over:							
Total	No.	1,132	165	154	264	409	140
	%	100.0	14.6	13.6	23.3	36.1	12.4
Secondary or less	No.	948	136	126	212	350	124
	%	100.0	14.4	13.3	22.3	37.0	13.0
Some post-secondary	No.	60	--	--	--	20	--
	%	100.0	--	--	--	33.7	--
Degree or diploma	No.	119	20	17	40	37	--
	%	100.0	16.4	14.4	33.2	31.4	--
Unknown	No.	--	-	--	--	--	--
	%	--	-	--	--	--	--

TABLE 102. Female Population 15 Years and Over by Frequency of Breast Self-Examination, by Age and Education, Canada, 1978-79

Education		Total	Monthly	Quarterly	Less often	Never	Don't know how	Unknown
		in thousands						
Age 15 and over:								
Total	**No.**	**8,907**	**1,884**	**1,840**	**1,642**	**2,736**	**584**	**222**
	%	100.0	21.1	20.7	18.4	30.7	6.6	2.5
Secondary or less	**No.**	**6,666**	**1,341**	**1,270**	**1,116**	**2,260**	**481**	**198**
	%	100.0	20.1	19.1	16.7	33.9	7.2	3.0
Some post-secondary	**No.**	**697**	**153**	**157**	**166**	**178**	**34**	--
	%	100.0	22.0	22.5	23.8	25.5	4.9	--
Degree or diploma	**No.**	**1,498**	**378**	**402**	**351**	**288**	**66**	**14**
	%	100.0	25.3	26.8	23.4	19.2	4.4	.9
Unknown	**No.**	**47**	--	**12**	--	**12**	--	-
	%	100.0	--	25.0	--	24.6	--	-
15-19:								
Total	No.	1,146	106	92	132	684	102	29
	%	100.0	9.2	8.0	11.5	59.7	8.9	2.5
Secondary or less	No.	1,009	92	79	108	616	86	29
	%	100.0	9.1	7.8	10.7	61.0	8.5	2.8
Some post-secondary	No.	117	--	10	23	59	--	--
	%	100.0	--	8.6	19.7	50.3	--	--
Degree or diploma	No.	11	--	--	--	--	--	-
	%	100.0	--	--	--	--	--	-
Unknown	No.	--	-	--	--	--	--	-
	%	--	-	--	--	--	--	-
20-24:								
Total	No.	1,108	243	229	231	300	91	--
	%	100.0	21.9	20.6	20.8	27.1	8.2	--
Secondary or less	No.	674	148	144	106	202	63	--
	%	100.0	21.9	21.3	15.7	29.9	9.4	--
Some post-secondary	No.	179	41	27	54	44	--	--
	%	100.0	22.7	14.9	30.0	24.4	--	--
Degree or diploma	No.	250	54	56	70	54	--	-
	%	100.0	21.4	22.6	27.9	21.7	--	-
Unknown	No.	--	--	--	--	-	-	-
	%	--	--	--	--	-	-	-
25-44:								
Total	No.	3,242	764	803	700	739	194	42
	%	100.0	23.6	24.8	21.6	22.8	6.0	1.3
Secondary or less	No.	2,147	487	490	447	537	152	33
	%	100.0	22.7	22.8	20.8	25.0	7.1	1.5
Some post-secondary	No.	234	60	64	55	44	--	--
	%	100.0	25.5	27.2	23.4	18.8	--	--
Degree or diploma	No.	853	214	246	197	158	34	--
	%	100.0	25.1	28.8	23.1	18.5	4.0	--
Unknown	No.	8	--	--	--	--	--	--
	%	100.0	--	--	--	--	--	--
45-64:								
Total	No.	2,279	573	522	415	574	118	79
	%	100.0	25.1	22.9	18.2	25.2	5.2	3.4
Secondary or less	No.	1,888	469	408	311	520	104	75
	%	100.0	24.8	21.6	16.5	27.6	5.5	4.0
Some post-secondary	No.	107	26	39	26	14	--	--
	%	100.0	24.0	36.7	24.3	12.7	--	--
Degree or diploma	No.	264	71	70	72	38	--	--
	%	100.0	26.8	26.4	27.2	14.2	--	--
Unknown	No.	19	--	--	--	--	--	--
	%	100.0	--	--	--	--	--	--
65 and over:								
Total	No.	1,132	198	195	163	439	79	58
	%	100.0	17.5	17.2	14.4	38.8	7.0	5.1
Secondary or less	No.	948	145	150	144	385	76	49
	%	100.0	15.3	15.8	15.1	40.7	8.0	5.1
Some post-secondary	No.	60	16	17	--	18	-	--
	%	100.0	26.3	28.4	--	29.1	-	--
Degree or diploma	No.	119	38	27	11	33	--	--
	%	100.0	31.5	22.9	9.3	27.5	--	--
Unknown	No.	--	--	--	--	--	-	-
	%	--	--	--	--	--	-	-

Appendices

Appendix I

SURVEY QUESTIONNAIRES

Canada Health Survey / Enquête Santé Canada

Health and Welfare Canada / Santé et Bien-être social Canada

Statistics Canada / Statistique Canada

INTERVIEWER ADMINISTERED QUESTIONNAIRE

61 DOCKET NO. ☐☐☐☐☐☐

QUESTIONNAIRE NUMBER ☐ OF ☐

001 INTERVIEW COMPONENT

01 1 RECORD OF INTERVIEWER VISITS

Visit No.	Date		Interview Time		Length of Interview (min.)	Comments
	Day	Month	Start	Finish		
02	03	04	05	06		
07	08	09	10	11		
12						
13						

The interview form consisted of nine sections, organized such that the questions appeared on the left-hand page, and responses were recorded in columns across the two-page spread. Each column was used for one person in the household, who was identified at the top of the column.
On the following page appears the general layout. On subsequent pages, only the questions are shown.

101

IDENTIFICATION SECTION

INTERVIEWER:
TRANSCRIBE FROM HOUSEHOLD RECORD CARD PERSON NUMBER
NAME
AGE
SEX

01 PERSON NUMBER

Given name

Surname

02 AGE

03 1 M 2 F

Problem, question no.

HEALTH PROBLEM RECORDING AREA

ACTIVITY STATUS

9 - HAND CALENDAR TO RESPONDENT AND SAY:

The next few questions refer to the past 2 weeks.

Before I begin the health-related questions, I would like to establish the major activity of each person. Please refer to Block A of your Reference Card.

ENTER CODE

What was _____ doing most of those 2 weeks?

[W] Working [H] Housework [S] School [R] Retired [C] Child 1 to 6 [B] Baby under 1 [O] Other - Specify

04 Activity Status If O, specify (NP)

05

SECTION I - TWO WEEK DISABILITY

10 - The following questions refer to your health over the past 2 weeks.

ASK THE FOLLOWING QUESTIONS FOR EACH PERSON

a) During those 2 weeks did _____ stay in bed at all because of his (her) health?

06 1 No (11a) 2 Yes

b) How many days did _____ stay in bed for all or most of the day (including any nights spent as patient in hospital)?

07 Days

c) What was the main health problem which caused him (her) to stay in bed?

08 Entered above: "problem, 10"

11 CHECK PERSON'S ACTIVITY STATUS IN "9" ABOVE.
IF IT IS W, H, OR S, ASK QUESTION 11 USING APPROPRIATE ACTIVITY STATUS. OTHERWISE ASK QUESTION 12.

a) During those 2 weeks, did _____'s health keep him (her) from {work / house work / school} at all?

09 1 No (12a) 2 Yes

b) How many days did illness or injury keep _____ from {work / house work / school} for all or most of the day?

10 None (12a) or

11 Days

c) On how many of those days lost from {work / house work / school} did _____ stay in bed for all or most of the day?

12 Days

d) What was the main health problem which caused _____ to miss {work / house work / school}?

13 Entered above: "problem, 11"

12 - a) (Not counting the days mentioned earlier) Were there any other days during those 2 weeks that _____ cut down on things he (she) usually does because of his (her) health?

14 1 No (NP-10a) 2 Yes

b) (Again, not counting both the days in bed and days lost from {work / house work / school}) How many days did _____ cut down for all or most of the day?

15 Days

c) What was the main health problem which caused _____ to cut down?

16 Entered above: "problem, 12" (NP-10a)

201	301	401	501	601
01 PERSON NUMBER	01 PERSON NUMBER	01 PERSON NUMBER	01 PERSON NUMBER	01 PERSON NUMBER
Given name	Given name	Given name	Given name	Given name
Surname	Surname	Surname	Surname	Surname
02 AGE	02 AGE	02 AGE	02 AGE	02 AGE
03 1 M 2 F	03 1 M 2 F	03 1 M 2 F	03 1 M 2 F	03 1 M 2 F
Problem, question no.	Problem, question no.	Problem, question no.	Problem, question no.	Problem, question no.
04 Activity Status If O, specify (NP)	04 Activity Status If O, specify (NP)	04 Activity Status If O, specify (NP)	04 Activity Status If O, specify (NP)	04 Activity Status If O, specify (NP)
05	05	05	05	05
06 1 No (11a) 2 Yes	06 1 No (11a) 2 Yes	06 1 No (11a) 2 Yes	06 1 No (11a) 2 Yes	06 1 No (11a) 2 Yes
07 Days	07 Days	07 Days	07 Days	07 Days
08 Entered above: "problem, 10"	08 Entered above: "problem, 10"	08 Entered above: "problem, 10"	08 Entered above: "problem, 10"	08 Entered above: "problem, 10"
09 1 No (12a) 2 Yes	09 1 No (12a) 2 Yes	09 1 No (12a) 2 Yes	09 1 No (12a) 2 Yes	09 1 No (12a) 2 Yes
10 None (12a) or 11 Days	10 None (12a) or 11 Days	10 None (12a) or 11 Days	10 None (12a) or 11 Days	10 None (12a) or 11 Days
12 Days	12 Days	12 Days	12 Days	12 Days
13 Entered above: "problem, 11"	13 Entered above: "problem, 11"	13 Entered above: "problem, 11"	13 Entered above: "problem, 11"	13 Entered above: "problem, 11"
14 1 No (NP-10a) 2 Yes	14 1 No (NP-10a) 2 Yes	14 1 No (NP-10a) 2 Yes	14 1 No (NP-10a) 2 Yes	14 1 No (NP-10a) 2 Yes
15 Days	15 Days	15 Days	15 Days	15 Days
16 Entered above: "problem, 12" (NP-10a)	16 Entered above: "problem, 12" (NP-10a)	16 Entered above: "problem, 12" (NP-10a)	16 Entered above: "problem, 12" (NP-10a)	16 Entered above: "problem, 12" (NP-10a)

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SECTION II - HEALTH CARE UTILIZATION

13 - The next few questions refer to contacts with health professionals during the past 2 weeks.
During those 2 weeks did anyone in the family see or talk to any of the following health professionals about their health:

			HEALTH PROFESSIONAL CODE
A - A medical doctor?	○ No ○ Yes	Who? →	01 ○ A Anyone else? →
B - A dentist?	○ No ○ Yes	Who? →	02 ○ B Anyone else? →
C - A nurse?	○ No ○ Yes	Who? →	03 ○ C Anyone else? →
D - A pharmacist or druggist for advice (exclude prescriptions)?	○ No ○ Yes	Who? →	04 ○ D Anyone else? →
E - An optometrist or optician?	○ No ○ Yes	Who? →	05 ○ E Anyone else? →
F - A chiropractor?	○ No ○ Yes	Who? →	06 ○ F Anyone else? →
G - A psychologist, social worker or other counsellor?	○ No ○ Yes	Who? →	07 ○ G Anyone else? →
H - Any other health professional?	○ No ○ Yes	Who? →	08 ○ H Specify
			09
			Anyone else? →

IF NO CONTACT REPORTED FOR ALL FAMILY MEMBERS - GO TO 15

14 - FOR EACH PERSON WHO INDICATED CONTACT, ASK:

a) Which health professional did _____ see or talk to most recently? → ENTER CODE FROM ABOVE: A→H

HEALTH PROFESSIONAL CODE
10 ☐

b) Please refer to Block B of your Reference Card. Where did _____'s most recent contact take place? → ENTER CODE: 0→9

PLACE CODE
11 ☐
If 9, specify
12

PLACE CODE		PLACE CODE	
0	Health professional's office	5	At work or industrial clinic
1	Community health center	6	At school
2	Hospital emergency room	7	At home
3	Hospital outpatient dep't or hospital clinic	8	Telephone only (except to make an appointment)
4	While patient in hospital	9	Other (please specify)

c) What was the main health problem for this contact?

13 1 ○ None **(14e)**
2 ○ **Entered above: "problem, 14"**

d) How long has _____ had the problem?

14 1 ○ Less 2 wk.
2 ○ 2 wk. - 1 mo.
3 ○ 1 mo. - 1 yr.
4 ○ More 1 yr.
5 ○ Since birth
(NP-14a)

e) Please refer to Block C of your Reference Card. What was the reason for this contact? → ENTER CODE: 1→7

REASON CODE
15 ☐
If 7, specify
16
(NP-14a)

REASON COOE		REASON CODE	
1	Medical check-up with blood pressure check	5	Eye examination
2	Medical check-up without blood pressure check	6	Shots, Inoculation or vaccination
3	Dental check-up	7	Other (please specify)
4	Pre or post natal care		

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HEALTH CARE UTILIZATION (Section II - cont'd)

15 - Now I would like to ask you about contacts with health professionals during the past 12 months.

ASK THE FOLLOWING QUESTIONS FOR EACH PERSON

a) During the past 12 months how many times did _____ see or talk to a medical doctor about his(her) health? Include any visits in the last 2 weeks.

17 ☐☐ Times **(16a)**
18 ○ or None

b) How long has it been since _____ saw or talked to a medical doctor about his(her) health?

19 ☐☐ Years
20 ○ or Never

16 - a) During the past 12 months, how many times did _____ see or talk to a dentist? Include any visits in the last 2 weeks.

21 ☐☐ Times **(17)**
22 ○ or None

b) How long has it been since _____ saw or talked to a dentist?

23 ☐☐ Years
24 ○ or Never

17 - During the past 12 months, how many times did _____ see or talk to the following health professionals about his(her) health?

a) A nurse — 25 ☐☐ Times

b) A pharmacist or druggist for advice (excludes prescriptions) — 26 ☐☐ Times

c) An optometrist or optician — 27 ☐☐ Times

d) A chiropractor — 28 ☐☐ Times

e) A psychologist, social worker or other counsellor — 29 ☐☐ Times

(NP-15a)

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HEALTH CARE UTILIZATION (Section II - cont'd) 104

18 - a) In the past 12 months, was anyone in the family a patient in a hospital, a nursing home or a convalescent home? ○No **(19)** ○Yes Who?→

30 ○Hospital
31 ○Nursing home
32 ○Convalescent home
anyone else?→

b) How many times was_____ in a { hospital / nursing home / convalescent home } in the last 12 months?

33 ⌊_⌋ Times

c) How many nights did_____ spend in a { hospital / nursing home / convalescent home } in the last 12 months?

34 ⌊_⌋ Nights

d) How many of these nights were in the last 2 weeks?

35 ⌊_⌋ Nights **(NP-18b)**

19 - The next few questions refer to immunizations, shots or vaccinations.

Has_____ ever had any immunizations?

36 No ○ **(NP)** Yes ○ ? ○ **(NP)**

20 a) Has_____ ever been immunized against polio?

INCLUDES: D.P.T.P., QUAD, - "4-in-1"; SABIN; SALK

No ○ **(20c)** Yes ○ ? ○ **(20c)**

b) Was this in the last 5 years?

No ○ Yes ○ ? ○

c) Has_____ ever been immunized against:

diphtheria?

INCLUDES: D.T.; D.P.T.; D.P.T.P., QUAD - "4-in-1"

No ○ Yes ○ ? ○

tetanus?

INCLUDES: D.T.; D.P.T.; D.P.T.P.; QUAD - "4-in-1"; T.A.B.T., TETANUS TOXOID

No ○ Yes ○ ? ○

red measles?

No ○ Yes ○ ? ○

German measles or rubella?

No ○ **(NP-19)** Yes ○ **(NP-19)** ? ○ **(NP-19)**

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SECTION III - ACCIDENTS

105

21 - The next few questions refer to accidents which resulted in an injury that was serious enough to limit your normal activities. Some examples of such injuries are a sprained ankle, a bad cut or burn, a broken bone and so on.

a) During the past 12 months, has anyone in the family had any accidents of this type? ◯No **(22)** ◯Yes Who? → 01 ◯Accident Anyone else? →

b) FOR EACH PERSON WHO INDICATED AN ACCIDENT ASK:
How many accidents of this type did _____ have? 02 ___ Number

c) Did any of these accidents occur in the past 2 weeks? 03 No 1 ◯ **(NP-21b)** Yes 2 ◯

d) How many? 04 ___ Number

e) (For the most serious accident in the past 2 weeks) What was the main injury or health problem that resulted from this accident? 05 ◯ **Entered above: "problem, 21"**

f) Please refer to Block D of your Reference Card.
Where did this accident occur?

PLACE CODE		PLACE CODE	
1	At home (inside)	5	At work
2	At home (outside)	6	At school
3	Street, highway, public sidewalk	7	At place of recreation or sport
4	Parking lot	8	Other (specify)

ENTER CODE: 1 → 8

06 PLACE CODE ☐
If 8, specify
07 ___

g) At what time did this accident occur?

TIME CODE	
1	Between 6 a.m. and noon
2	Between noon and 6 p.m.
3	Between 6 p.m. and midnight
4	Between midnight and 6 a.m.

ENTER CODE: 1 → 4

08 TIME CODE ☐

h) Was a moving motor vehicle involved in this accident? 09 No 1 ◯ **(NP-21b)** Yes 2 ◯

i) How many motor vehicles were involved in this accident? 10 1 ◯One 2 ◯More than one

j) Was _____ a driver, passenger or pedestrian at the time of the accident? 11 1 ◯Driver 2 ◯Passenger 3 ◯Pedestrian

k) Please refer to Block E of your Reference Card.
What was the main reason for travelling when this accident occurred?

REASON CODE		REASON CODE	
1	Going to work or school	6	Going or returning from shopping
2	Returning from work or school	7	Driving for pleasure
3	As part of job	8	On vacation
4	Going to a social gathering	9	Other (specify)
5	Returning from a social gathering		

ENTER CODE: 1 → 9

12 REASON CODE ☐ **(NP-21b)**
If 9, specify
13 ___

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SECTION IV - DRUG USE

106

22 - The next few questions refer to the use of medicines, pills or ointments in the last 2 days.

Yesterday, or the day before, did you or anyone in the family take or use any of the following:

DRUG CODE

AA - Pain relievers, such as aspirin?	◯No	◯Yes Who?→	01 ◯AA	Anyone else?→
BB - Tranquilizers, medicine for the nerves or medicine to help you sleep?	◯No	◯Yes Who?→	02 ◯BB	Anyone else?→
CC - Medicine for the heart or blood pressure?	◯No	◯Yes Who?→	03 ◯CC	Anyone else?→
DD - Antibiotics?	◯No	◯Yes Who?→	04 ◯DD	Anyone else?→
EE - Stomach remedies or medicines?	◯No	◯Yes Who?→	05 ◯EE	Anyone else?→
FF - Laxatives?	◯No	◯Yes Who?→	06 ◯FF	Anyone else?→
GG - Cough or cold remedies?	◯No	◯Yes Who?→	07 ◯GG	Anyone else?→
HH - Skin ointments or salves?	◯No	◯Yes Who?→	08 ◯HH	Anyone else?→
I I - Vitamins or minerals?	◯No	◯Yes Who?→	09 ◯I I	Anyone else?→
JJ - Any other medication?	◯No	◯Yes Who?→	10 ◯JJ	Specify: 11

Anyone else?→

ASK THE FOLLOWING QUESTIONS FOR EACH PERSON FOR EACH DRUG MARKED ABOVE. BEGIN AT TOP OF COLUMN.

ENTER CODE FROM ABOVE:AA→JJ

DRUG CODE 12

23 - a) Was this (name of medication) obtained on the advice of a medical doctor?
13 1 ◯No 2 ◯Yes 3 ◯?

b) Over the past month, has_____taken this at least once every week?
14 1 ◯No (ND) 2 ◯Yes 3 ◯?

c) What is the main health problem for which_____took this medication?
15 1 ◯None 2 ◯Entered above: "problem, 23" (ND)

ENTER NEXT CODE FROM ABOVE: BB→JJ

DRUG CODE 16

24 - a) Was this (name of medication) obtained on the advice of a medical doctor?
17 1 ◯No 2 ◯Yes 3 ◯?

b) Over the past month, has_____taken this at least once every week?
18 1 ◯No (ND) 2 ◯Yes 3 ◯?

c) What is the main health problem for which_____took this medication?
19 1 ◯None 2 ◯Entered above: "problem, 24" (ND)

ENTER NEXT CODE FROM ABOVE: CC→JJ

DRUG CODE 20

25 - a) Was this (name of medication) obtained on the advice of a medical doctor?
21 1 ◯No 2 ◯Yes 3 ◯?

b) Over the past month, has_____taken this at least once every week?
22 1 ◯No (NP) 2 ◯Yes 3 ◯?

c) What is the main health problem for which_____took this medication?
23 1 ◯None 2 ◯Entered above: "problem, 25" (NP)

05-78

(ND) = NEXT DRUG

SECTION V - ACTIVITY LIMITATION

107

The next few questions refer to any limitation that you may have in your normal activities because of your health.

ASK THE FOLLOWING QUESTIONS FOR EACH PERSON

26 - Please refer to Block F of your Reference Card.
What was _____ doing most of the past 12 months?

01
1 ◯ Working **(29)**
2 ◯ Keeping house **(30)**
3 ◯ School **(31a)**
4 ◯ Retired, health **(33a)**
5 ◯ Retired, other **(28a)**
6 ◯ Not working, health **(33a)**
7 ◯ Not working, other **(28a)**
8 ◯ Child **(27a)**
9 ◯ Baby **(32a)**

27 - a) Is _____ able to take part at all in ordinary play with other children?

02 No: 1 ◯ **(33a)** Yes: 2 ◯

b) Is _____ limited in the kind or amount of play he (she) can participate in because of his (her) health?

03 No: 1 ◯ **(32a)** Yes: 2 ◯ **(33a)**

28 - a) Does _____ 's health now keep him (her) from work, keeping house or going to school?

04 No: 1 ◯ Yes: 2 ◯ **(33a)**

b) Is _____ limited in the kind or amount of activities he (she) can do because of his (her) health?

05 No: 1 ◯ **(32a)** Yes: 2 ◯ **(33a)**

29 - Is _____ limited in the kind or amount of work he (she) can do because of his (her) health?

06 No: 1 ◯ **(32a)** Yes: 2 ◯ **(33a)**

30 - Is _____ limited in the kind or amount of housework he (she) can do because of his (her) health?

07 No: 1 ◯ **(32a)** Yes: 2 ◯ **(33a)**

31 - a) Does _____ have to go to a certain type of school because of his (her) health?

08 No: 1 ◯ Yes: 2 ◯ **(33a)**

b) Is _____ limited in school attendance because of his (her) health?

09 No: 1 ◯ Yes: 2 ◯ **(33a)**

32 - a) Is _____ limited in any way because of his (her) health?

10 No: 1 ◯ **(NP-26)** Yes: 2 ◯

b) In what way is _____ limited?

RECORD LIMITATION, NOT PROBLEM

11 |_|_|_|_|_|_|_|_|_|

|_|_|_|_|_|_|_|_|_|

33 - a) How long has _____ { been limited in . . . / been unable to work? / been unable to keep house? / had to go to a certain type of school? }

12 ◯ Since birth
13 ◯ less than one month
14 |_|_| months or
15 |_|_| years

b) What is the main health problem which caused this limitation?

16 ◯ **Entered above: "problem, 33"**

(NP-26)

05-78

SECTION VI - DENTAL, HEARING, VISION

103

34 - The next few questions refer to your family's dental health, hearing and vision.

Does anyone in the family have:

a) crowns or bridges? ◯No ◯Yes Who?→ 01 ◯Crown, bridge
Anyone else?→

b) partial dentures or plates? ◯No ◯Yes Who?→ 02 ◯Partial denture
Anyone else?→

c) full upper or lower dentures or plates? ◯No **(35)** ◯Yes Who?→ 03 1 ◯Upper
2 ◯Lower
3 ◯Both
Anyone else?→

FOR EACH PERSON INDICATING FULL UPPER OR LOWER DENTURES, ASK:

d) Does_____wear his(her) denture(s) every day? No Yes
04 1 ◯**(NP)** 2 ◯**(NP)**

35 - Does anyone in the family have difficulty or discomfort with their teeth, gums, dentures or plates? ◯No ◯Yes Who?→ 05 ◯**Entered above: "DT, 35"**
Anyone else?→

36 - a) Does anyone in the family use a hearing aid? ◯No **(37)** ◯Yes Who?→ 06 ◯Hearing aid
Anyone else?→

FOR EACH PERSON INDICATING A HEARING AID, ASK:

b) Does_____have any trouble hearing even when he(she) is wearing the hearing aid?

07 1 ◯No trouble
2 ◯**Entered above: "HT, 36"** } **(NP)**

37 - Does anyone who does not use a hearing aid have any trouble hearing normal conversation? ◯No ◯Yes Who?→ 08 ◯**Entered above: "HT, 37"**
Anyone else?→

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DENTAL, HEARING, VISION (Section VI - cont'd) 109

38 - a) Does anyone in the family use prescribed eye glasses or contact lenses? ◯No **(39)** ◯ Yes Who?→

09 ◯ Glasses/Contacts Anyone else?→

FOR EACH PERSON WHO INDICATED GLASSES ASK:

b) Does_____have any trouble seeing even when he (she) wears the glasses (contacts)?

10
1 ◯ No trouble
2 ◯ **Entered above: "VT, 38"**

c) Does_____have any trouble seeing ordinary newsprint without his (her) glasses (contacts)?

11 No 1 ◯ Yes 2 ◯

d) Does_____have any trouble recognizing a friend on the other side of the street without his (her) glasses (contacts)?

12
No 1 ◯ **(NP-38b)** Yes 2 ◯ **(NP-38b)**

39 - FOR THOSE NOT WEARING GLASSES, ASK:
NOTE: RECORD CHILDREN UNDER 1 YEAR AS BABY

Does____have any trouble seeing ordinary newsprint?

13
1 ◯ No trouble
2 ◯ **Entered above: "VT, 39"**
3 ◯ Baby

40 - Does____have any trouble recognizing a friend on the other side of the street?

14
1 ◯ No trouble
2 ◯ **Entered above: "VT, 40"** **(NP-39)**
3 ◯ Baby

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SECTION VII - CHRONIC HEALTH PROBLEMS

110

The following questions refer to long term health problems.

Does anyone in the family presently have:

CHRONIC HEALTH PROBLEM CODE / QUESTION NO.

41 - Anemia?	◯ No	◯ Yes	Who? →	41 ◯ A, 41 anyone else? →
42 - Skin allergies?	◯ No	◯ Yes	Who? →	42 ◯ B, 42 anyone else? →
43 - Hay fever or other allergies?	◯ No	◯ Yes	Who? →	43 ◯ C, 43 anyone else? →
44 - Asthma?	◯ No	◯ Yes	Who? →	44 ◯ D, 44 anyone else? →
45 - Arthritis or rheumatism?	◯ No	◯ Yes	Who? →	45 ◯ E, 45 anyone else? →
46 - Cancer?	◯ No	◯ Yes	Who? →	46 ◯ F, 46 anyone else? →
47 - Cerebral palsy?	◯ No	◯ Yes	Who? →	47 ◯ G, 47 anyone else? →
48 - Diabetes?	◯ No	◯ Yes	Who? →	48 ◯ H, 48 anyone else? →
49 - Emphysema or chronic bronchitis?	◯ No	◯ Yes	Who? →	49 ◯ J, 49 anyone else? →
50 - Mental retardation?	◯ No	◯ Yes	Who? →	50 ◯ K, 50 anyone else? →
51 - Any emotional disorders (excluding mental retardation)?	◯ No	◯ Yes	Who? →	51 ◯ L, 51 anyone else? →
52 - Epilepsy?	◯ No	◯ Yes	Who? →	52 ◯ M, 52 anyone else? →
53 - High blood pressure?	◯ No	◯ Yes	Who? →	53 ◯ N, 53 anyone else? →
54 - Heart disease?	◯ No	◯ Yes	Who? →	54 ◯ O, 54 anyone else? →
55 - Kidney disease?	◯ No	◯ Yes	Who? →	55 ◯ P, 55 anyone else? →
56 - Stomach ulcer?	◯ No	◯ Yes	Who? →	56 ◯ Q, 56 anyone else? →
57 - Thyroid trouble or goitre?	◯ No	◯ Yes	Who? →	57 ◯ R, 57 anyone else? →
58 - Recurring migraine headaches?	◯ No	◯ Yes	Who? →	58 ◯ S, 58 anyone else? →
59 - Missing arms or legs?	◯ No	◯ Yes	Who? →	59 ◯ T, 59 anyone else? →
60 - Missing fingers or toes?	◯ No	◯ Yes	Who? →	60 ◯ U, 60 anyone else? →
61 - Paralysis of any kind?	◯ No	◯ Yes	Who? →	61 ◯ V, 61 anyone else? →

Excluding any health problems mentioned earlier such as arthritis or paralysis, does anyone in the family presently have:

62 - Serious trouble with the back or spine?	◯ No	◯ Yes	Who? →	62 ◯ W, 62 anyone else? →
63 - Serious trouble with the legs or hips?	◯ No	◯ Yes	Who? →	63 ◯ X, 63 anyone else? →
64 - Serious trouble with the arms or shoulders?	◯ No	◯ Yes	Who? →	64 ◯ Y, 64 anyone else? →
65 - Serious trouble with any other bones or joints?	◯ No	◯ Yes	Who? →	65 ◯ Z, 65 anyone else? →

FOR EACH PERSON ENTER EACH CHRONIC HEALTH PROBLEM CODE AND QUESTION NUMBER ABOVE.

INDICATE ACTION TAKEN

66 ◯ No chronic health problems

67 ◯ All codes and question numbers entered above.

66 - a) And now, does anyone in the family presently have any other long term illness or impairment? ◯ No **(Section VIII)** ◯ Yes Who? →

68 ◯ Long term health problem anyone else? →

b) What is _____'s health problem?

69 ◯ **Entered above: "problem, 66" (NP)**

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SECTION VIII - HEALTH PROBLEM PROBES

IF NO (MORE) HEALTH PROBLEMS REPORTED FOR ANY OF THE FAMILY MEMBERS, SKIP TO SECTION IX. FOR EACH PERSON SCAN HEALTH PROBLEM RECORDING AREA AND CHECK THAT ALL HEALTH PROBLEMS HAVE BEEN UNDUPLICATED.

COMPLETE ONE PROBE FOR EACH UNIQUE HEALTH PROBLEM.

BEGIN BY COPYING:
— PERSON NUMBER FROM IDENTIFICATION SECTION
— Problem, question number(s) FROM HEALTH PROBLEM RECORDING AREA

PROBE 1

I would now like to ask some further questions on the health problems you mentioned earlier.

PERSON NUMBER

Problem, question number(s)

NOTE: IF ANY QUESTION NUMBER IS 14, SKIP TO NEXT PROBE

a) How long has _____ had his (her) (health problem)?

- 1 ◯ 2 days or less
- 2 ◯ 3 days to 2 weeks
- 3 ◯ 2 weeks to 1 month
- 4 ◯ 1 month to 1 year
- 5 ◯ More then 1 year
- 6 ◯ Since birth

b) When did _____ last see or talk to a health professional about his (her) (health problem)?

- 1 ◯ During the last 12 months **(Probe 2)**
- 2 ◯ 1 to 2 years ago
- 3 ◯ 2 to 5 years ago
- 4 ◯ More than 5 years ago
- 5 ◯ Never
- 6 ◯ ?

c) What is the main reason that _____ has not seen a health professional recently about his (her) (health problem)?

- 1 ◯ Problem not serious enough
- 2 ◯ Costs too much
- 3 ◯ Takes too much time
- 4 ◯ Under control
- 5 ◯ Other, specify:

PROBE 2

This section was not organized in columns as was the rest of the questionnaire. The probes were repeated 16 times on each survey form.

PERSON NUMBER

Problem, question number(s)

NOTE: IF ANY QUESTION NUMBER IS 14, SKIP TO NEXT PROBE

a) How long has _____ had his (her) (health problem)?

- 1 ◯ 2 days or less
- 2 ◯ 3 days to 2 weeks
- 3 ◯ 2 weeks to 1 month
- 4 ◯ 1 month to 1 year
- 5 ◯ More than 1 year
- 6 ◯ Since birth

b) When did _____ last see or talk to a health professional about his (her) (health problem)?

- 1 ◯ During the last 12 months **(Probe 3)**
- 2 ◯ 1 to 2 years ago
- 3 ◯ 2 to 5 years ago
- 4 ◯ More than 5 years ago
- 5 ◯ Never
- 6 ◯ ?

c) What is the main reason that _____ has not seen a health professional recently about his (her) (health problem)?

- 1 ◯ Problem not serious enough
- 2 ◯ Costs too much
- 3 ◯ Takes too much time
- 4 ◯ Under control
- 5 ◯ Other, specify:

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SECTION IX - DEMOGRAPHIC 119

67 - We are now finished with the questions on your health. These last few questions will provide important background information about you and your family.

ASK THE FOLLOWING QUESTIONS FOR EACH PERSON

a) Where was _____ born?

ENTER CODE: 01 → 11

PROVINCE CODE		PROVINCE CODE	
01	NEWFOUNDLAND	07	MANITOBA
02	PRINCE EDWARD ISLAND	08	SASKATCHEWAN
03	NOVA SCOTIA	09	ALBERTA
04	NEW BRUNSWICK	10	BRITISH COLUMBIA
05	QUEBEC	11	YUKON OR N.W.T.
06	ONTARIO		

PROVINCE CODE
01 ⌊__⌋ (67c)
or
02 ○ Outside Canada
(specify)
03 ⌊__⌋

b) When did he (she) first come to live in Canada?

04 ⌊__⌋ Year

c) What language or languages did _____ first learn and use in childhood?

05 ○ English
06 ○ French
07 ○ German
08 ○ Italian
09 ○ Ukrainian
10 ○ Other (specify)
11 ⌊__⌋

d) Please refer to Block G of your reference card. Which best describes _____ 's background?

NOTE: MORE THAN ONE RESPONSE CAN BE RECORDED

12 ○ European
13 ○ Asian (Oriental)
14 ○ African
15 ○ Native American (Indian, Inuit)
(NP-67a)

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DEMOGRAPHIC (Section IX - Cont'd)

120

68 - INDICATE EACH PERSON WHO IS 15 AND OVER AND NOT LIVING WITH A SPOUSE

15 ◯ 15 and over, not living with spouse

FOR EACH PERSON INDICATED, ASK:

a) Has _____ ever lived with a spouse? (include common-law relationships of at least 3 months)

17 No 1 ◯ (NP) Yes 2 ◯

b) Within the last 12 months?

18 No 1 ◯ Yes 2 ◯

c) Was his (her) spouse lost through death?

19 No 1 ◯ (NP-68a) Yes 2 ◯ (NP-68a)

69 - What is the highest level of education _____ has reached?

IF BABY OR CHILD 6 AND UNDER, INDICATE HERE

20 ◯ Baby, Child

IF IN ELEMENTARY/SECONDARY SCHOOL, INDICATE GRADE

21 ☐☐ Grade

IF NOT IN ELEMENTARY/SECONDARY SCHOOL, INDICATE LEVEL

22
1 ◯ Some secondary or less
2 ◯ Secondary diploma
3 ◯ Some post secondary
4 ◯ Post secondary certificate or diploma
5 ◯ Bachelor's degree or equivalent
6 ◯ One or more graduate degrees

(NP)

70 - a) Has anyone in the family lived at this address less than 12 months? (excluding babies under 1 year) ◯ No **(71)** ◯ Yes Who? ⟶

23 ◯ Less than 12 months Anyone else? ⟶

FOR THOSE HERE LESS THAN 12 MONTHS, SAY:

b) Please refer to Block H of your Reference Card. What best describes the place where _____ lived before?

ENTER CODE: 1 ⟶ 8

PLACE CODE

24 ☐ (NP)

PLACE CODE Same municipality or urban area

1 Same neighbourhood or locale

2 Same municipality or urban area but different neighbourhood or locale

PLACE CODE Different municipality or urban area

3 Different place under 1,000 population or rural area

4 Different place 1,000 - 9,999 population

5 Different place 10,000 - 99,999 population

6 Different place 100,000 - 1,000,000 population

7 Over 1,000,000 population (e.g. Montreal - Toronto - Vancouver)

8 Don't know

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DEMOGRAPHIC (Section IX — Cont'd) 121

71 - a) Who in the family worked or had a job in the past 2 weeks? ◯ No one **(72)** or Who? → | 25 ◯ Had a job Anyone else? →

ASK THE FOLLOWING QUESTIONS FOR EACH PERSON WHO HAD A JOB

b) What kind of work does _____ do?
(Give full description: e.g. posting invoices, selling shoes, teaching primary school) | 26

c) For whom does _____ work?
(Name of business, government department or agency, or person, or is he (she) self-employed?) | 27

d) What kind of business, industry or service is this?
(Give full description: e.g. paper-box manufacturing, retail shoe store, municipal board of education) | 28

e) How many hours per week does _____ usually work at this job? | 29 ☐☐ Hours **(NP-71b)**

72 - ASK THE FOLLOWING QUESTIONS FOR EACH PERSON 15 AND OVER WHO DID NOT HAVE A JOB

a) Did _____ look for work in the past 12 months? | No ◯ **(72c)** Yes ◯

b) Which of the following experiences has _____ had while looking for work in the past 12 months: accepted an offer, received only unacceptable offers, no jobs available, or something else? | ◯ Accepted offer ◯ Unacceptable offers ◯ No jobs available ◯ Something else

c) Has _____ had a paying job within the last 5 years? | No ◯ **(72e)** Yes ◯

d) If a job similar to _____ 's last one were available this week, is there any reason why he (she) could not take it? | ◯ No reason ◯ Out of season ◯ Own illness / disability ◯ Personal / family reasons ◯ Going to school ◯ No longer suitable ◯ Other

e) Has _____ worked full-time during at least 5 years of his (her) life? | No ◯ **(NP-72a)** Yes ◯

f) What kind of work did _____ do for the longest time?
(Give full description: e.g. posting invoices, selling shoes, teaching primary school)

g) How many years did he (she) do this kind of work? | ☐☐ Years

h) For whom did _____ work for the longest time?
(Name of business, government department or agency, or person, or is he (she) self-employed?)

i) What kind of business, industry or service was this?
(Give full description: e.g. paper-box manufacturing, retail shoe store, municipal board of education) | **(NP-72a)**

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DEMOGRAPHIC (Section IX - Cont'd) 122

73 - Now, the last topic. Although many health expenses are covered by provincial insurance programs, there still continues to be a relationship between a person's health status and income. We would appreciate your answering a few questions on your income to help us study this situation. Please be assured that, like all the other information you provide these answers will be kept in strictest confidence.

ASK THE FOLLOWING QUESTIONS FOR EACH PERSON 15 AND OVER:

a) What was _____ 's income before taxes from wages, salaries and self-employment during the past 12 months?

42 $ |_|_|_|_|_| 00

43 1 ◯ $100,000 and over
2 ◯ Refusal
3 ◯ ?

b) Please refer to Block I of your Reference Card. From which of these other sources did _____ receive income during the past 12 months?

44 ◯ Interest, dividends
45 ◯ Family allowance
46 ◯ U.I.C.
47 ◯ Social assistance
48 ◯ O.A.S./G.I.S.
49 ◯ C.P.P./Q.P.P.
50 ◯ Retirement pension
51 ◯ Other gov't sources
52 ◯ Other sources
53 ◯ None **(NP-73a)**

c) What was _____ 's income before taxes from these sources during the past 12 months?

54 $ |_|_|_|_|_| 00

55 1 ◯ $100,000 and over
2 ◯ Refusal
3 ◯ ?

(NP-73a)

INDICATE FOR EACH PERSON

This person was:

56 1 ◯ Present for all of the interview
2 ◯ Present for part of the interview
3 ◯ Absent

05-78

Canada Health Survey | Enquête Santé Canada

Health and Welfare Canada | Santé et Bien-être social Canada

Statistics Canada | Statistique Canada

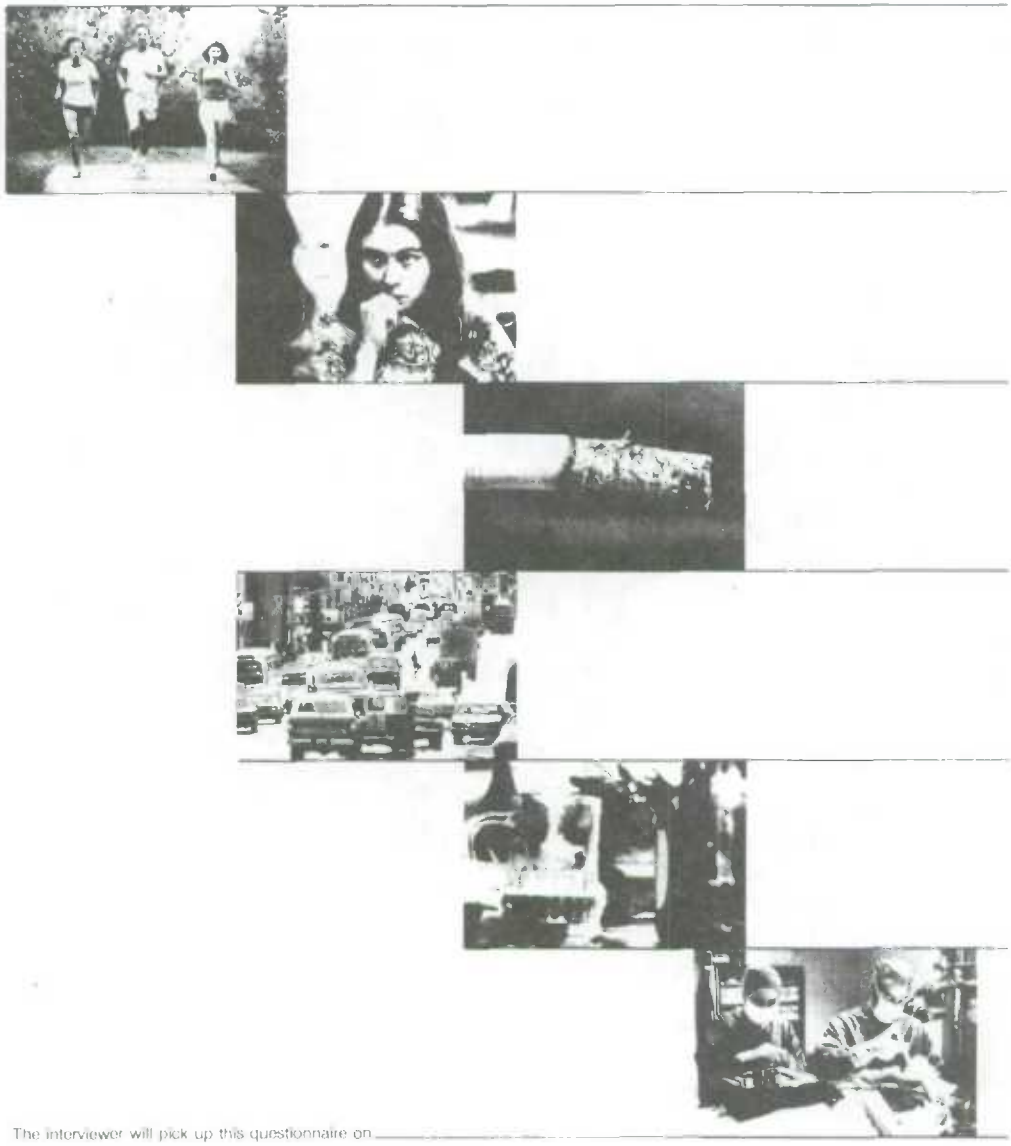
lifestyle and your health

Lifestyle has a direct influence on health. The effect may not be immediate, but everybody knows that risks taken today are paid for tomorrow, just as positive action results in better health.

The **Canada Health Survey** is collecting information on the state of health of Canadians. At the interview we collect information on people's health now and in the past but, to plan effectively, we must also have indications of health in the future. That is why we ask that you fill in this questionnaire.

Your lifestyle is a private matter. To ensure your privacy, we have provided you with an envelope for your questionnaire. All the information collected will be used in combination with answers from the other participants. No individual will ever be identified from the results.

Please take a few minutes to help us plan for the future needs of all Canadians.



The interviewer will pick up this questionnaire on _____

8–3200–3.3: 1-3-78

62 Docket No. _____ Person No. ___ 001 3 002 IA ___

INSTRUCTIONS

1. Most questions can be answered by placing an "X" in the box provided.

   For example Sex: ☐ Male ☒ Female

   Where longer answers are required, please print clearly.

   For example Month of birth J U N E

2. Some questions have more than one part. Please follow the arrows to determine if you should answer these additional parts.

   For example

	Vehicles you drove	a) Number of years you have been driving
Automobiles	☒	0 3 years OR ☐ Less than a year
Trucks or vans	☒	years OR ☒ Less than a year
Motorcycles	☐	years OR ☐ Less than a year

OR ☐ I did not drive any of these in the last twelve months.

YOUR FEELINGS

1. Here is a list that describes some of the ways people feel at different times. During the past few weeks, how often have you felt. . .

	Often	Sometimes	Never
A. On top of the world?	101 ☐ 1	☐ 2	☐ 3
B. Very lonely or remote from other people?	102 ☐ 1	☐ 2	☐ 3
C. Particularly excited or interested in something?	103 ☐ 1	☐ 2	☐ 3
D. Depressed or very unhappy?	104 ☐ 1	☐ 2	☐ 3
E. Pleased about having accomplished something?	105 ☐ 1	☐ 2	☐ 3
F. Bored?	106 ☐ 1	☐ 2	☐ 3
G. Proud because someone complimented you on something you had done?	107 ☐ 1	☐ 2	☐ 3
H. So restless you couldn't sit long in a chair?	108 ☐ 1	☐ 2	☐ 3
I. That things were going your way?	109 ☐ 1	☐ 2	☐ 3
J. Upset because someone criticized you?	110 ☐ 1	☐ 2	☐ 3

2. Taking things all together, how would you say things are these days — would you say you're	Very happy	Pretty happy	Not too happy
	111 ☐ 1	☐ 2	☐ 3

YOUR HEALTH

1. The following questions are about various aspects of your health.

	Often	Sometimes	Never
A. Have you ever been bothered by your heart beating hard?	201 ☐ 1	☐ 2	☐ 3
B. How often are you bothered by an upset stomach?	202 ☐ 1	☐ 2	☐ 3
C. Do your hands ever tremble enough to bother you?	203 ☐ 1	☐ 2	☐ 3
D. Are you ever troubled by your hands or feet sweating so that they feel damp and clammy?	204 ☐ 1	☐ 2	☐ 3
E. Have you ever been bothered by shortness of breath when not exerting yourself?	205 ☐ 1	☐ 2	☐ 3
F. Do you ever have spells of dizziness?	206 ☐ 1	☐ 2	☐ 3
G. Do you feel weak all over much of the time?	207 ☐ 1	☐ 2	☐ 3
H. Do you feel healthy enough to carry out the things you would like to do?	208 ☐ 1	☐ 2	☐ 3
I. Do you feel you are bothered by all sorts (different kinds) of ailments in different parts of your body?	209 ☐ 1	☐ 2	☐ 3
J. Do you ever have loss of appetite?	210 ☐ 1	☐ 2	☐ 3
K. Do you have any trouble in getting asleep and staying asleep?	211 ☐ 1	☐ 2	☐ 3
L. Has ill health affected the amount of work you do?	212 ☐ 1	☐ 2	☐ 3
M. Have you ever felt you were going to have a nervous breakdown?	213 ☐ 1	☐ 2	☐ 3
N. Are you ever bothered by nightmares?	214 ☐ 1	☐ 2	☐ 3
O. Do you tend to lose weight when important things are bothering you?	215 ☐ 1	☐ 2	☐ 3
P. Do you tend to feel tired in the mornings?	216 ☐ 1	☐ 2	☐ 3

YOUR HEALTH — Cont'd

2. Have you ever had any of the following?

	Yes	No	Not Sure
Heart trouble	217 ☐ 1	☐ 2	☐ 3
High blood pressure	218 ☐ 1	☐ 2	☐ 3
A stroke	219 ☐ 1	☐ 2	☐ 3
Diabetes	220 ☐ 1	☐ 2	☐ 3
Cancer	221 ☐ 1	☐ 2	☐ 3

THE NEXT FEW QUESTIONS ARE FOR WOMEN ONLY.
MEN SHOULD GO ON TO THE NEXT PAGE.

3. When did you last have a Pap smear test?

222 ☐ 1 Less than 12 months ago
☐ 2 Between one and two years ago
☐ 3 More than two years ago
☐ 4 Never
☐ 5 Don't know

4. Have you ever had breast cancer?

223 ☐ 1 Yes ☐ 2 No

5. When did you last have a breast examination by a doctor or nurse?

224 ☐ 1 Less than 12 months ago
☐ 2 Between one and two years ago
☐ 3 More than two years ago
☐ 4 Never
☐ 5 Don't know

6. How often do you examine your own breasts for tumors or cysts?

225 ☐ 1 At least once a month
☐ 2 Once every 2 or 3 months
☐ 3 Less often
☐ 4 Never
☐ 5 Don't know how to do it

7. Are you taking either of the following?

☐ Birth control pills (for contraception, to regulate menstrual cycle, or for some other reason)
☐ Female hormone pills (to control symptoms of menopause or for some other reason)

OR ☐ Neither of these

FAMILY HISTORY These questions are about a few aspects of your parent's health

1. Did your father ever have any of the following?

	Yes	No	Not Sure
Heart trouble	301 ☐ 1	☐ 2	☐ 3
High blood pressure	302 ☐ 1	☐ 2	☐ 3
A stroke	303 ☐ 1	☐ 2	☐ 3
Diabetes	304 ☐ 1	☐ 2	☐ 3
Cancer	305 ☐ 1	☐ 2	☐ 3

2. Is your father now living?

306 ☐ Yes

324 ☐ No

(a) At what age did he die?

At age 325 ☐☐ OR ➧ 327 ☐ Don't know

(b) What was the cause of death?

305 ☐ Heart trouble
☐ 2 A stroke
☐ 3 Diabetes
☐ 4 Cancer
☐ 5 Other (specify)

340 ☐☐☐☐☐☐☐☐☐☐

OR ➧ 342 ☐ 6 Don't know

3. Did your mother ever have any of the following?

	Yes	No	Not Sure
Heart trouble	311 ☐ 1	☐ 2	☐ 3
High blood pressure	312 ☐ 1	☐ 2	☐ 3
A stroke	313 ☐ 1	☐ 2	☐ 3
Diabetes	314 ☐ 1	☐ 2	☐ 3
Cancer	315 ☐ 1	☐ 2	☐ 3

4. Is your mother now living?

316 ☐ Yes

334 ☐ No

(a) At what age did she die?

At age 335 ☐☐ OR ➧ 337 ☐ Don't know

(b) What was the cause of death?

319 ☐ Heart trouble
☐ 2 A stroke
☐ 3 Diabetes
☐ 4 Cancer
☐ 5 Other (specify)

320 ☐☐☐☐☐☐☐☐☐☐

OR ➧ 322 ☐ 6 Don't know

YOUR ACTIVITIES

The following questions are about some of your work and leisure activities.

1. Which of the following best describes how you spent your leisure time during the last two weeks? (Please check one box only)

- ☐ 1 Almost all of it by myself
- ☐ 2 A lot of it by myself
- ☐ 3 About half of it by myself and half of it with others
- ☐ 4 A lot of it with others
- ☐ 5 Almost all of it with others

2. During the last two weeks how many times did you do any of the following exercises, sports or recreational activities?

2a. About how much time did you spend on each occasion?

	Times in last two weeks	Minutes usually spent: 1 to 15	16 to 30	31 to 60	More than 60
Walking (including to and from work or school)	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Jogging or running	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Calisthenics	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Bicycling (including to and from work or school)	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Bowling	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Vigorous dancing	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Skating	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Skiing (downhill, crosscountry)	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Curling	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Racquet sports (tennis, badminton, squash, racquetball)	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Baseball / Softball	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Other team sports (hockey, basketball, football, soccer, volleyball)	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Golf	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Swimming	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Other (please specify) ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐	☐☐	☐ 1	☐ 2	☐ 3	☐ 4

OR ☐ I did nothing like this in the last two weeks

YOUR ACTIVITIES - cont'd

3. During the last two weeks, how many times did you do the following tasks around your home?

3a. About how much time did you spend on each occasion?

	Times in last two weeks	Minutes usually spent: 1 to 15	16 to 30	31 to 60	More than 60
Mowing the grass	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Shoveling snow	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Cleaning floors	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Raking leaves	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Gardening	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Making beds	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Carpentry	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Handyman work, painting	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Ironing	☐☐	☐ 1	☐ 2	☐ 3	☐ 4
Other (please specify) ☐☐☐☐☐☐☐☐☐☐☐☐☐☐	☐☐	☐ 1	☐ 2	☐ 3	☐ 4

OR ☐ I did nothing like this in the last two weeks.

4. Which of the following choices best describes the work or other activity which you usually do? Check one only.

☐ I am usually sitting during the day and do not walk about very much.

☐ I stand or walk about quite a lot during my day, but I do not have to carry or lift things very often.

☐ I usually lift or carry light loads, or I have to climb stairs or hills often.

☐ I do heavy work or carry very heavy loads.

ALCOHOL

The following questions are about your experiences with alcohol.

1 In the last twelve months, about how often have you taken at least one drink of beer, wine, liquor or any other alcoholic beverage?

501
- ☐ 1 Two or more times a day
- ☐ 2 Once a day
- ☐ 3 4 to 6 times a week
- ☐ 4 2 or 3 times a week
- ☐ 5 About once a week
- ☐ 6 2 or 3 times a month
- ☐ 7 About once a month

OR ➡

Answer the questions in Part "A" only

PART "A"

2. Not counting small sips, at what age did you start drinking alcoholic beverages?

At age 502 ☐☐

3. Beginning with yesterday, how many drinks did you have on each of the last 7 days?

(a) Yesterday

503
- ☐ 1 No drinks
- ☐ 2 1
- ☐ 3 2 or 3
- ☐ 4 4 to 7
- ☐ 5 8 to 11
- ☐ 6 12 or more

(b) 2 days ago

504
- ☐ 1 No drinks
- ☐ 2 1
- ☐ 3 2 or 3
- ☐ 4 4 to 7
- ☐ 5 8 to 11
- ☐ 6 12 or more

(c) 3 days ago

505
- ☐ 1 No drinks
- ☐ 2 1
- ☐ 3 2 or 3
- ☐ 4 4 to 7
- ☐ 5 8 to 11
- ☐ 6 12 or more

(d) 4 days ago

506
- ☐ 1 No drinks
- ☐ 2 1
- ☐ 3 2 or 3
- ☐ 4 4 to 7
- ☐ 5 8 to 11
- ☐ 6 12 or more

(e) 5 days ago

507
- ☐ 1 No drinks
- ☐ 2 1
- ☐ 3 2 or 3
- ☐ 4 4 to 7
- ☐ 5 8 to 11
- ☐ 6 12 or more

(f) 6 days ago

508
- ☐ 1 No drinks
- ☐ 2 1
- ☐ 3 2 or 3
- ☐ 4 4 to 7
- ☐ 5 8 to 11
- ☐ 6 12 or more

(g) 7 days ago

509
- ☐ 1 No drinks
- ☐ 2 1
- ☐ 3 2 or 3
- ☐ 4 4 to 7
- ☐ 5 8 to 11
- ☐ 6 12 or more

4. Has your drinking changed over the last 12 months?

510
- ☐ 1 Drinking more now
- ☐ 2 Drinking less now
- ☐ 3 No change over last 12 months

5. What do you usually drink?

(Check one only)

511
- ☐ 1 Beer
- ☐ 2 Wine
- ☐ 3 Liquor or mixed drinks
- ☐ 4 Other

OR ➡ ☐ 5 It varies

6. Over the last 12 months, has your drinking played a part in any of the following problems?

512 ☐ Tension or disagreement with family or friends?

513 ☐ Trouble at work or school?

514 ☐ Problems with your health?

515 ☐ Difficulties with driving?

516 ☐ Trouble with the law?

517 ☐ Accidental injury to yourself or someone else?

518 ☐ Violent injury to yourself or someone else?

OR ➡ 519 ☐ None of these

501 ☐ 8 Less often than once a month

☐ 9 Not at all in the last 12 months

Answer the questions in Part "B" only

The following table might help you answer some of these questions.

One drink equals...
- One pint bottle of beer (12 ounces)
- One small glass of wine (4-5 ounces)
- One shot of liquor or spirits (1 - 1½ ounces) with or without mix

A shot with a beer chaser or a double should be counted as two drinks.

PART "B"

2. What experience with alcohol have you had?

520 ☐ 1 Drink occasionally } Go to page 10

☐ 2 Never drank }

OR ☐ 3 Used to drink

3. (a) At what age did you start?

At age 521 ☐☐

(b) At what age did you have your last drink?

At age 522 ☐☐

4. About how often did you usually drink?

523 ☐ 1 Two or more times a day

☐ 2 Once a day

☐ 3 4 to 6 times a week

☐ 4 2 or 3 times a week

☐ 5 About once a week

☐ 6 2 or 3 times a month

☐ 7 About once a month

☐ 8 Less often than once a month

5. About how many drinks did you have at a time?

524 ☐ 1 One

☐ 2 two or three

☐ 3 Four or five

☐ 4 Six or seven

☐ 5 More than that

6. What did you usually drink? (Check one only)

525 ☐ 1 Beer

☐ 2 Wine

☐ 3 Liquor or mixed drinks

☐ 4 Other

OR ☐ 5 It varied.

7. Were there any particular reasons why you stopped drinking?

(Please check all appropriate boxes)

526 ☐ Close friend or spouse did not drink

527 ☐ It was affecting my health

528 ☐ Joined the A.A.

529 ☐ Had a bad experience because of drinking

530 ☐ It was a source of conflict with family or friends

531 ☐ Didn't drink much and decided to quit

532 ☐ It was too expensive

533 ☐ Thought that I could use my time better

534 ☐ It was affecting my job, studying, or homemaking

OR ☐ No Particular Reason

Go to Page 10 (Tobacco)

TOBACCO These questions are about your experience with tobacco and smoking.

1. Check any of the following which you now smoke daily.

- [ ] pipes
- [ ] cigars
- [ ] cigarillos

OR

- [ ] none of these

2. Do you smoke cigarettes daily?

- [ ] Yes — Answer the questions in PART "A" only
- [ ] No — Answer the questions in PART "B" only

PART "A"

3. At what age did you start smoking cigarettes daily?

At age [ ][ ]

4. About how many cigarettes do you now smoke each day?

About [ ][ ] a day

5. How far do you usually draw in the smoke?

- [ ] Only into my mouth
- [ ] Into my throat
- [ ] Partly into my chest
- [ ] Deeply into my chest
- [ ] I'm not sure

6. Has your smoking changed over the last 12 month?

- [ ] Smoking more now
- [ ] Smoking less now
- [ ] Switched to a stronger brand
- [ ] Switched to a milder brand

OR

- [ ] No change over the last 12 months

7. Have you tried stopping during the last 12 months?

- [ ] Yes
- [ ] No

8. Please check the one brand of cigarettes which you usually smoke in the list on the next page.

PART "B"

3. What experience with cigarettes have you had? (Check one only.)

- [ ] Never smoked
- [ ] Now smoke occasionally
- [ ] Used to smoke occasionally

} Go to page 12

OR

- [ ] Used to smoke daily.

4. At what age did you start smoking daily?

At age [ ][ ]

5. At what age did you stop smoking daily?

At age [ ][ ]

6. About how many cigarettes did you usually smoke daily?

About [ ][ ] a day

7. How far did you usually draw in the smoke?

- [ ] Only into my mouth
- [ ] Into my throat
- [ ] Partly into my chest
- [ ] Deeply into my chest
- [ ] I'm not sure

8. Please check the one brand of cigarettes which you used to smoke in the list on the next page.

CIGARETTE BRANDS
(Please check one only)

BRAND NAME	BRAND NAME	BRAND NAME
618		
001 Alpine	037 Embassy K.S.	073 Players No. 6 Regular Filter
002 Belmont Regular	038 Export "A" Regular	074 Players Light Regular Filter
003 Belmont K.S.	039 Export "A" K.S.	075 Players K.S. Filter
004 Belmont K.S. Menthol	040 Export Lights Regular	076 Players Light K.S. Filter
005 Belvedere Regular	041 Export Lights K.S.	077 Players Regular Plain
006 Belvedere K.S.	042 Export Lights K.S. Menthol	078 Players Medium Regular Plain
007 Belvedere Extra Mild Reg.	043 Export Plain	079 Plus 120mm.
008 Belvedere Extra Mild K.S.	044 Goldcrest 100	080 Plus 120mm. Menthol
009 Belvedere K.S. Menthol	045 John Players Special	081 La Québécoise Regular
010 Benson & Hedges 100's	046 Kool K.S.	082 La Québécoise K.S.
011 Benson & Hedges 100's Menthol	047 MacDonald Regular Menthol	083 Rothmans K.S.
012 Black Cat Regular Filter	048 MacDonald K.S. Menthol	084 Rothmans Regular Special Mild
013 Black Cat Regular Cork	049 Mark Ten Regular Filter	085 Rothmans K.S. Special Mild
014 Black Cat Regular Plain	050 Mark Ten K.S. Filter	086 Sportsman Regular Filter
815 British Consols Regular	051 Mark Ten K.S. Menthol	087 Sportsman K.S. Filter
016 British Consols Plain	052 Mark Ten Regular Plain	088 Sportsman Regular Plain
017 Buckingham Regular Plain	053 Mark Ten K.S. Plain	089 Sweet Caporal Regular Filter
018 Buckingham K.S. Plain	054 Matinée Regular	090 Sweet Caporal K.S. Filter
019 Cameo K.S.	055 Matinée K.S.	091 Sweet Caporal Regular Plain
020 Cameo K.S. Extra Mild	056 Matinée K.S. Special Filter	092 TL Regular
021 Cavalier K.S.	057 Matinée 100's Special Filter	093 TL K.S.
022 Contessa Slims K.S.	058 Maverick K.S.	094 Turret Regular
023 Craven "A" Regular	059 Medaillon K.S.	095 Turret K.S.
024 Craven "A" K.S.	060 Millbank K.S.	096 Vantage K.S.
025 Craven "M" K.S. Menthol	061 Montclair Regular	097 Viceroy K.S.
026 Craven "A" Regular Special Mild	062 Montclair K.S.	098 Viscount Regular
027 Craven "A" K.S. Special Mild	063 Number 7 K.S.	099 Viscount K.S.
028 Dudes K.S.	064 Pall Mall K.S. Plain	100 Viscount K.S. Menthol
029 du Maurier Regular	065 Perlily K.S.	101 Viscount No. 1 Ultra Regular
030 du Maurier K.S.	066 Peter Jackson K.S.	102 Viscount No. 1 Ultra Mild K.S.
031 du Maurier K.S. Menthol	067 Peter Stuyvesant K.S.	103 Winston K.S.
032 du Maurier K.S. Special Mild	068 Peter Stuyvesant 100's	104 Other (please specify brand and whether it is regular or king size, and plain or filter).
033 du Maurier Special Mild 100's	069 Peter Stuyvesant 100's Menthol	
034 Dumont Select K.S.	070 Philip Morris Regular Plain	619
035 Dunhill K.S.	071 Players Regular Filter	
036 Embassy Regular	072 Players Medium Regular Filter	

05.78

YOUR TRANSPORTATION

The following questions are about your experience both as a driver and a passenger. Please record distances in either miles or kilometers.

1. During the last two weeks, about how many miles/kilometers have you travelled as a passenger?

	Number of miles/kilometers	1a. Always	Most of the time	Rarely	Never or no seatbelt
In automobiles	miles OR km				
In trucks or vans	miles OR km				
On motorcycles	miles OR km				

OR ☐ I was not a passenger in the last two weeks.

2. During the last two weeks about how many miles/kilometers have you travelled as a driver?

	Number of miles/kilometers	2a. Always	Most of the time	Rarely	Never or no seatbelt
In automobiles	miles OR km				
In trucks or vans	miles OR km				
On motorcycles	miles OR km				

OR ☐ I was not a driver in the last two weeks

3. Which of the following vehicles have you driven during the last 12 months?

3a. How many years have you been driving each of these?

	Vehicles you drove	Number of years you have been driving	
Automobiles	☐	☐☐ years	OR ☐ Less than a year
Trucks or vans	☐	☐☐ years	OR ☐ Less than a year
Motorcycles	☐	☐☐ years	OR ☐ Less than a year

OR ☐ I did not drive any of these in the last twelve months

05-78

SOME FACTS ABOUT YOU

The next few questions will help to relate information on your health to that of other people in Canada with similar backgrounds.

1. Sex

801 ☐ 1 Male ☐ 2 Female

2. Birthdate

802 Day 803 Month 804 Year

3. What is your present marital status?

Are you presently. . .

805 ☐ 1 Married (including common law)
☐ 2 Widowed
☐ 3 Divorced
☐ 4 Separated
☐ 5 Single (never married)

4. What language do you use all or most of the time? (Choose one only)

806 ☐ 1 English ☐ 3 German ☐ 5 Ukrainian
☐ 2 French ☐ 4 Italian ☐ 6 Other (please specify)

807

5. Is there another language which you are in the habit of using? (Choose one only)

808 ☐ 1 None ☐ 2 English ☐ 4 German ☐ 6 Ukrainian
☐ 3 French ☐ 5 Italian ☐ 7 Other (please specify)

809

6. What was the main religious denomination of your childhood? (Choose one only)

810 ☐ 01 None ☐ 02 Roman Catholic ☐ 08 Greek Orthodox
☐ 03 United Church ☐ 09 Jewish
☐ 04 Anglican ☐ 10 Pentecostal
☐ 05 Presbyterian ☐ 11 Jehovah's Witnesses
☐ 06 Lutheran ☐ 12 Mennonite
☐ 07 Baptist ☐ 13 Other (please specify)

811

7. How important is religion to you now?

812 ☐ 1 Very important
☐ 2 Fairly important
☐ 3 Of little importance
☐ 4 Of no importance at all

SOME FACTS ABOUT YOU — cont'd

8. Please indicate which of the following has happened to you during the last 12 months. (Please check all the boxes which apply to you.)

813 ☐ Stopped full-time schooling

814 ☐ Lost a job or was unemployed

815 ☐ Got married

816 ☐ Someone moved in with you

817 ☐ Had financial problems

818 ☐ You and your spouse separated

819 ☐ Arrival of a baby at home

820 ☐ Someone moved out of your home

821 ☐ Serious illness

822 ☐ Serious illness of someone dear

823 ☐ Quit or retired from full-time work

824 ☐ Started working or changed jobs

825 ☐ Death of someone dear

OR ➧ 826 ☐ None of these

9. What is today's date?

827 ____ Day 828 ____ Month 829 1 9 7 Year

THANK YOU FOR COMPLETING THIS PORTION OF

THE HEALTH SURVEY.

If you have any comments or suggestions about this portion of the Health Survey, please write them in the space provided on the following page. Your comments will aid in evaluating the questionnaire.

Canada Health Survey | Enquête Santé Canada

Health and Welfare Canada | Santé et Bien-être social Canada

Statistics Canada | Statistique Canada

PHYSICAL MEASURES QUESTIONNAIRE

63

DOCKET NO. ☐☐☐☐☐☐

QUESTIONNAIRE NUMBER ☐ OF __

This form was used primarily to record the results of the physical measurements and to control the taking of blood samples; the pages for the latter purpose are not included in the Appendix.

PHYSICAL MEASURES COMPONENT

1

RECORD OF PHYSICAL MEASURES VISITS

Visit No.	Date		Visit Time		Length of Visit (min.)	Comments
	Day	Month	Start	Finish		

NON-INTERVIEW REPORT

FOR INTERVIEWER — NURSE USE ONLY

Reason for Non-Interview

Signature _____ No. _____

FOR NURSE SUPERVISOR'S USE ONLY

Action Taken

◯ Converted

Signature _____ No. _____

FOR REGIONAL OFFICE USE ONLY

Action taken

◯ Converted
or
☐ Non-Interview Code

Signature _____ No. _____

8-3200-4 1) 1-3-78

IDENTIFICATION SECTION

INTERVIEWER:
TRANSCRIBE FROM HOUSEHOLD RECORD CARD PERSON NUMBER
NAME
AGE
SEX

IF A CONSENT FORM WAS NOT COMPLETED, INDICATE THE REASON

REASON WHY NOT ELIGIBLE FOR FITNESS TEST

101

PERSON NUMBER

Given Name

Surname

02 AGE

03 1 M 2 F

04 1 Refusal
2 Less than 2 years
3 Temporarily absent

Screened out by PAR-Q
Refusal
Not applicable
B.P. out of range

FOR ALL PERSONS WHO HAVE COMPLETED A CONSENT FORM

I would like to perform some measurements and complete some questions for your family, that is, you,_____
(Repeat the names which have been transcribed from the HOUSEHOLD RECORD CARD by the interviewer).

1. What is your date of birth?

05 Day Month Year

(Use AGE VERIFICATION CHART to determine age from birthdate)

2. That would make your age_____?

06 Age

IS THE AGE DETERMINED FROM THE AGE VERIFICATION CHART THE SAME AS THE AGE TRANSCRIBED FROM THE HOUSEHOLD RECORD CARD

07 1 Yes 2 No

Determine which is the correct age and make the appropriate change.

3. INDICATE WHICH CONSENT FORM WAS COMPLETED

08 1 Adult
3 Child

05-78

102

4. PAR-Q QUESTIONNAIRE

FOR PERSONS 15-64 YEARS OF AGE INCLUSIVE
DO NOT INTERPRET THE QUESTIONS FOR THE RESPONDENTS.

A. 1. Has your doctor ever said you have heart trouble? — 01 1 Yes 2 No

2. Do you frequently have pains in your heart and chest? — 02 1 Yes 2 No

3. Do you often feel faint or have spells of severe dizziness? — 03 1 Yes 2 No

4. Has your doctor ever said your blood pressure was too high? — 04 1 Yes 2 No

5. Has your doctor ever told you that you have a bone or joint problem such as arthritis that has been aggravated by exercise or might be made worse by exercise? — 05 1 Yes 2 No

6. Is there any good physical reason not mentioned here why you should not follow an activity program even if you wanted to? — 06 1 Yes 2 No

Specify reason

07 [ ][ ][ ][ ][ ][ ][ ][ ]
[ ][ ][ ][ ][ ][ ][ ][ ]
[ ][ ][ ][ ][ ][ ][ ][ ]

and categorize according to the system affected

08 1 Circulatory
2 Musculo-Skeletal
3 Respiratory
4 Other

FOR ALL PERSONS RECORD FINAL STATUS

B. 1. Did not pass (screened out by PAR-Q)
2. Passed
3. Conditional pass

09 1 Did not pass
2 Passed
3 Conditional pass

Specify

10 [ ][ ][ ][ ][ ][ ][ ][ ]
[ ][ ][ ][ ][ ][ ][ ][ ]
[ ][ ][ ][ ][ ][ ][ ][ ]

FOR PERSONS WITHOUT FINAL STATUS RECORD WHY.

C. 1. Refusal
2. Under 15 years or over 64 years (not applicable)

11 1 Refusal
2 Under 15 years or over 64 years

ENTER "SCREENED OUT BY PAR-Q", "REFUSAL" OR "NOT APPLICABLE" IN IDENTIFICATION SECTION ABOVE

05-78

105

5. HEIGHT & WEIGHT MEASUREMENT

FOR ALL PERSONS 2 YEARS AND OVER

HEIGHT

A. Measurement to the nearest 0.1 cm

01 ___.___ cm

IF UNABLE TO MEASURE

B. 1. Ask respondent to state height in inches.

02 ___ in.
or
02 99 ◯ ? / N.A.

2. Specify why measurement was not possible.

03 1 ◯ Confined to wheelchair or bed
2 ◯ Severe curvature of the spine
3 ◯ Other
Specify
04

WEIGHT

C. Measurement to the nearest 0.1 kg

05 ___.___ kg

IF UNABLE TO MEASURE

D. 1. Ask respondent to state weight in pounds.

06 ___ lb.
or
06 999 ◯ ? / N.A.

2. Specify why measurement not possible.

07 1 ◯ Confined to wheelchair or bed
2 ◯ Other
Specify
08

E. INDICATE IF NO DATA WAS COLLECTED FOR HEIGHT AND/OR WEIGHT.

09 1 ◯ No data height and weight
2 ◯ No data height
3 ◯ No data weight

05-78

6. ARM MEASUREMENTS

FOR ALL PERSONS 5 YEARS OF AGE AND OVER

A. 1. Upper arm length to nearest 0.1 cm — 01 ___ Length cm

2. Arm mid-point — 02 ___ Mid-pt cm

3. Arm girth — 03 ___ Girth cm

4. Skinfold measurements → 1st — 04 ___ 1st mm

→ 2nd — 05 ___ 2nd mm

B. Were measurements taken on left arm? — 06 1 ◯ Yes 2 ◯ No

Specify — 07

C. Did you have difficulty obtaining the measurements? — 08 1 ◯ Yes 2 ◯ No

specify — 09

D.

FOR PERSONS WITHOUT ARM MEASUREMENTS SPECIFY WHY

10 1 ◯ Refusal

2 ◯ Less than 5 yrs

3 ◯ Unable to measure

specify — 11

7. OBSERVATIONS

FOR ALL PERSONS ON WHOM ANY MEASUREMENTS WERE TAKEN

1. Does_____have any missing fingers? — 12 1 ◯ Yes 2 ◯ No

2. Does_____have a missing arm? — 13 1 ◯ Yes 2 ◯ No

3. Does_____have a missing leg? — 14 1 ◯ Yes 2 ◯ No

4. Does_____have severe curvature of the spine? — 15 1 ◯ Yes 2 ◯ No

5. Does_____have any other severe physical deformities? — 16 1 ◯ Yes 2 ◯ No

specify — 17

05-78

105

8. BLOOD PRESSURE

FOR PERSONS 5 YEARS OF AGE AND OVER

ASSURE 5 MINUTE REST PERIOD WITH NO POSTURAL CHANGE PRIOR TO MEASUREMENT

A. Arm girth (right arm)

01 ___ Girth cm

B. Cuff size
- Child (24.0 cm or smaller)
- Regular (24.1 cm to 35.0 cm)
- Large (35.1 cm or larger)

02 1 ◯ Child
2 ◯ Regular
3 ◯ Large

C. Was blood pressure taken on right arm?

03 1 ◯ Yes 2 ◯ No

04 Specify ___

D. Record 3 phases

IF ONE PHASE IS NOT OBTAINED, LEAVE CORRESPONDING BOX BLANK.

05 ___ 1st mm hg

06 ___ 4th mm hg

07 ___ 5th mm hg

IF BLOOD PRESSURE IS OUT OF RANGE, ENTER "B.P. OUT OF RANGE" IN IDENTIFICATION SECTION ABOVE

E. Did you have difficulty obtaining the measurement?

08 1 ◯ Yes 2 ◯ No

Specify

09 ___

F. CHECK REASON IF NO INFORMATION IS COLLECTED.

1 ◯ Refusal
2 ◯ Less than 5 years
3 ◯ Unable to obtain

Specify

IF NO INFORMATION IS COLLECTED, ENTER "B.P. OUT OF RANGE" IN IDENTIFICATION SECTION ABOVE

05-78

10. FITNESS TEST

FOR ALL PERSONS 15-64 YEARS OF AGE INCLUSIVE

A. Pulse after first 3 minutes — ☐☐ 1st

B. Pulse after second 3 minutes — ☐☐ 2nd

C. Was exercise interrupted or discontinued for some reason — ◯ Yes ↓ specify ◯ No

FOR ALL PERSONS FOR WHOM THE FITNESS TEST WAS NOT TAKEN

D. Screened out by Par-Q — ◯ Screened out by PAR-Q

E. Refusal — ◯ Refusal

F. Not applicable (under 15 or over 64) — ◯ Not applicable

G. Blood pressure out of range — ◯ B.P. out of range

H. Screened out by observation — ◯ Screened out by observation

1. Dyspnea at rest or on mild or moderate exertion — ◯ Dyspnea
2. Persistent coughing — ◯ Coughing
3. Apparent cyanosis — ◯ Cyanosis
4. Muscular or orthopedic problem — ◯ Muscular or Orthopedic
5. Lower extremity edema — ◯ Edema
6. Pregnancy — ◯ Pregnancy
7. Some indication of impairment from alcohol — ◯ Intoxication
8. Other — ◯ Other ↓ Specify

11. INDICATE FINAL STATUS OF PHYSICAL MEASURES FOR EACH PERSON

◯ Complete
◯ Partial
◯ Non-interview

05-78

Appendix II

SAMPLE DESIGN AND ESTIMATION

Planned Sample Design

The Canada Health Survey, as originally conceived, was to be a continuous monthly survey with an annual cycle. It was on this basis that the sample design was developed. The sample design as initially planned will be described, followed by changes implemented because of the early termination of the survey.

The survey had two major components, called the Interview component (I-component) and the Physical Measures component (P-component). The I-component was given to all sampled households and consisted of an interview-administered questionnaire and a self-administered questionnaire. The P-component was given to a subsample of households and was made up of a set of physical measurements and taking a blood sample for analyses. More details on the two components are given in the Overview.

I-Component: Allocation to Provinces and Sub-regions

The required annual sample size for the I-component was to be 40,000 persons or 12,000 households. The complexity of the procedures dictated a well-trained, ongoing data collection staff. One consideration in attempting to ensure a low turnover rate of field staff was to give each person a sufficient workload. Also, these people should be able to operate within short distances of their homes to minimize costs. The sampled areas should be spread as much as possible, however, to give a good coverage of the country. It was decided that 10 households selected in 100 geographical clusters each month would best meet these criteria.

These 100 clusters were allocated initially to the provinces proportional to the square root of the provincial populations. This method of allocation permits better estimates at the provincial level for the provinces with lower populations than would be achieved by allocating to the provinces proportional to their populations. Since health is a provincial responsibility, provincial as well as national estimates were considered important. A comparison of provincial allocations between allocations proportional to the provincial populations and proportional to the square root of the provincial populations is given in Text Table XII.

TEXT TABLE XII. Comparison of Allocation of Clusters to Provinces Proportional to Population and Proportional to the Square Root of the Population

Province	Proportional to population	Proportional to square root of population
Newfoundland	2	6
Prince Edward Island	1	3
Nova Scotia	4	7
New Brunswick	3	6
Quebec	28	19
Ontario	36	22
Manitoba	5	8
Saskatchewan	4	7
Alberta	7	10
British Columbia	10	12
Total	**100**	**100**

Quebec and Ontario were each divided into three sub-regions, formed by grouping contiguous provincial health regions. In these cases the provincial allocation was allotted to the sub-regions proportional to the square root of the population of the sub-regions.

I-Component: Stratification and the Stages of Selection

Within each province (or sub-provincial region), three major strata were formed. These were major cities, other urban areas, and rural areas. The allocation of clusters to the provinces and major strata is given in Text Table XIII. The allocation of the provincial clusters to the major strata was done proportional to their respective populations with the requirement that the minimum allocation to a stratum be two. The requirement of a minimum of two clusters per stratum would allow calculation of estimates of sampling error at the stratum level.

Cities whose populations were large enough to allow an allocation of at least two clusters were included in the Major City stratum. Seven cities qualified under this criterion (Halifax, Montréal, Toronto, Winnipeg, Edmonton, Calgary and Vancouver) and St. John's, Québec, Ottawa and Hamilton were added because of their relatively high population as compared to other

cities in the province. These 11 cities accounted for 45% of the population of Canada as per the 1971 Census of Population. Not every province had cities in the Major City stratum.

All other cities classified as Canadian Labour Force Survey (LFS) self-representing units were included in Stratum 2, Other Urban areas. In the Other Urban stratum in Price Edward Island, there was an allocation of only one cluster for the I-component because of the small provincial allocation.[1] Within each province (or sub-provincial region), a PPS (probability proportional to size) systematic sample of cities was selected in the Other Urban stratum. Each selected city was allocated one cluster.

After the selection of cities from the Other Urban stratum, the further stages of selection were identical to the stages of selection in the Major City stratum. Figure VIII describes the stages of selection within each of the major strata. Within the Major City and Other Urban strata, many cities were divided into an area frame and an apartment frame. In the area frame, a CHS cluster was composed of a group of LFS clusters, which is usually one or two city blocks. Each CHS cluster had an approximate size of 150 dwellings. A simple systematic sample of CHS clusters was taken in the area frame; one interviewer's assignment consisted of three of these sampled clusters. If LFS had an apartment frame in the city, a PPS systematic sample of apartment buildings was selected. One selected apartment building was attached to each selected area cluster, whose size was reduced from 150 depending on the size of the apartment frame.

A simple systematic sample of households was taken in one of these three clusters each month. The number of households selected changed during the survey data collection period and is shown in Text Table XIV. The selection was rotated to a new cluster each month, returning to the same cluster every three months. This rotation scheme was intended to give a better coverage of the city while still allowing quarterly comparisons within the same sampled cluster.

In the Rural stratum, a simple systematic sample of Census Area Aggregates (AA) was taken. An AA is a group of contiguous Census Enumeration Areas (EA), is the rural equivalent of a Census Tract, and is made up of approximately 4,000 to 7,000 persons. Each AA was split into three groups of EA's, of approximately equal size, called Second Stage Units (SSU), and one of these three was selected at random. Field staff drove around and mapped each dwelling in the selected SSU, which was then divided into compact thirds, each with a roughly equal number of dwellings. Each third was then divided into compact quarters, each also with a roughly equal number of dwellings. The sample rotation was to a new third each month returning to the same third every three months. However, since each third was further sub-divided, one of these areas became the month's sampled area. A return to the same area for sampling was to occur only every 12 months. Each month a systematic sample of households was taken in the selected area.

P-Component: Allocation to Provinces and Sub-regions

A subsample of households of approximately one-third was to receive the P-component of the survey. Because of the high costs related to this part of the survey, it was decided not to include it in all 100 clusters. However, it was necessary to include it in as many as possible in order to keep a good coverage of the country and avoid high clustering of the sample. It was decided that this balance would be best achieved at 50 clusters. The allocation of these 50 clusters to the provinces and major strata was done analogously to the allocation of the 100 clusters for the I-component. However, it was not possible to provide for a minimum of two clusters per stratum in this situation. Therefore, for estimation of sampling error, some collapsing of strata was necessary. The allocation of the P-component clusters to the provinces and major strata is given in Text Table XIII.

After the allocation of the subsample of clusters for the P-component to the provinces and major strata, the decision as to which of the previously selected clusters would receive both the P-component and I-component was made at random. These were called P-type assignments. The clusters which receive the I-component only were called I-type assignments.

Selection of Dwellings Within a Cluster

As originally specified in the sample design, 10 households would be sampled per assignment each month. In P-type assignments, seven out of these 10 would receive both the I-component and P-component and the other three just the I-component. This meant that 35% of the sampled households would receive both components. These were called P-type households while those that received only the I-component were called I-type households.

Due to budget constraints, data collection was halted in March 1979, nine months after the survey was fully operational. Since this forced change of plans was known as early as October 1978, compensating changes were made in the sample design. In particular, the number of households selected in each assignment was changed. These changes are shown in Text Table XIV. The net result is that the survey collected in nine months was what was originally planned for in the first full year of the continuing survey.

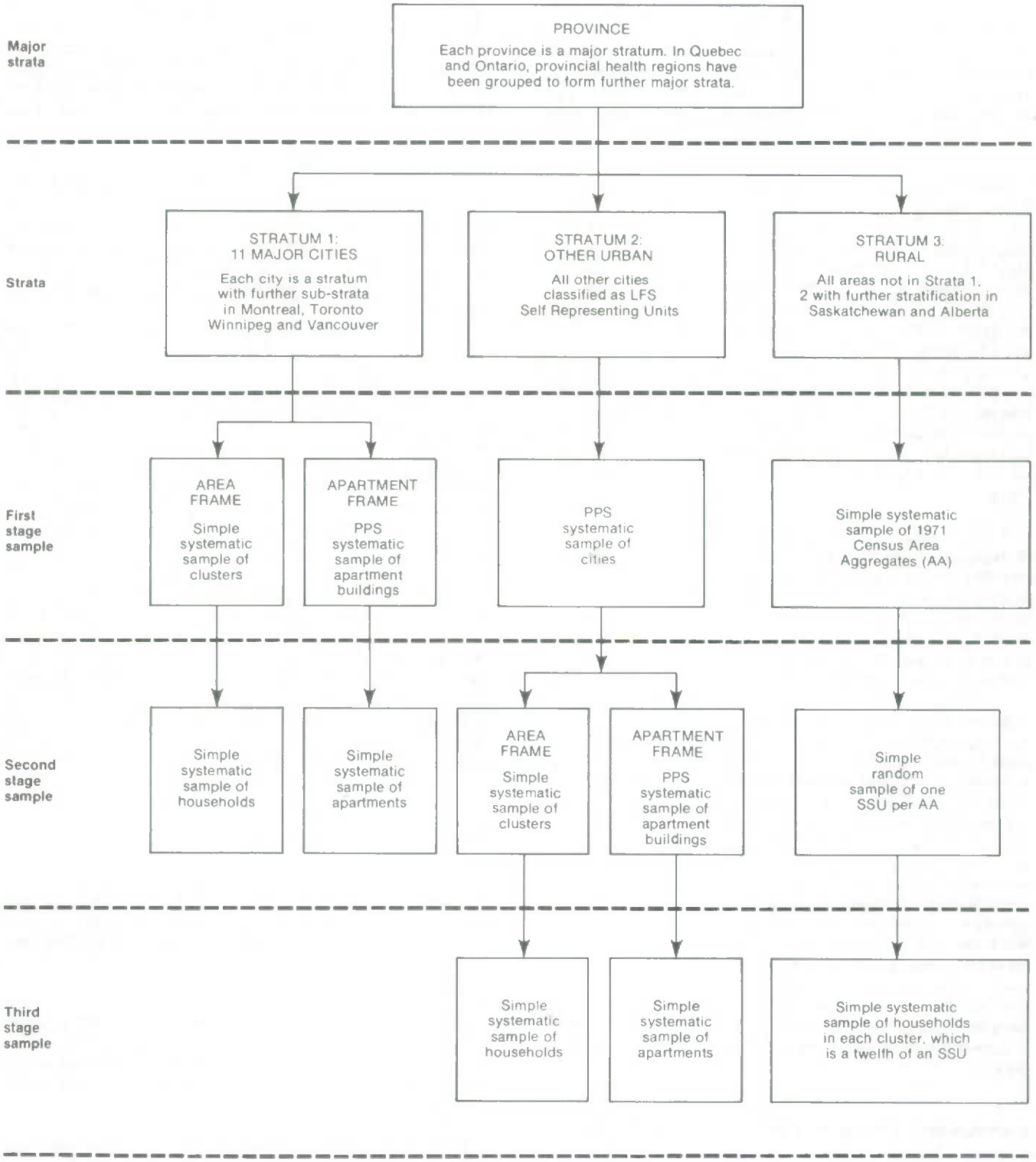
Estimation Procedures

Because not all sampled households had the same probability of being selected, a weight was assigned to each sampled household to be used in the calculation of the estimates. These weights are the reciprocal of the probability of selection. P-type households were given a second weight because of the fact that they are a sub-sample of all sampled households. All persons within a sampled household were assigned the same household weights and then adjustments were made for household, person and form unknown values and for under- or over-sampling within a Province-Age-Sex group, based on Census population projections. Details on the adjustments for unknowns are given in the Overview.

The estimate of the number of persons in the population having a given set of characteristics is determined by summing the weights of all sampled persons having that set of characteristics. The estimate of a population mean is the weighted

Figure VIII

Sample Design for the Canada Health Survey



Note: PPS: Probability proportional to size.
SSU: Second stage unit.
LFS: Canadian Labour Force Survey.

TEXT TABLE XIII. Allocation of Clusters to Strata Within Provinces

Province	Number of sample clusters		Sub region group	Allocation to sub region group		Major city strata			Other urban stratum allocation		Rural stratum allocation	
						Name	Allocation					
	I	P		I	P		I	P	I	P	I	P
Newfoundland	6	3				St. John's	2	1	2	1	2	1
Prince Edward Island	3	2				-	-	-	1	1	2	1
Nova Scotia	7	3				Halifax	2	1	2	1	3	1
New Brunswick	6	3					-	-	3	1	3	2
Quebec	19	9	1	9	4	Montréal	5	2	2	1	2	1
			2	6	3	Québec	2	1	2	1	2	1
			3	4	2	-			2	1	2	1
Ontario	22	11	2	4	2	-	-	-	2	1	2	1
			1	10	5	Ottawa	2	1	2	1	2	1
						Toronto	4	2				
			3	8	4	Hamilton	2	1	4	2	2	1
Manitoba	8	4				Winnipeg	4	2	2	1	2	1
Saskatchewan	7	4				-	-	-	3	2	4	2
Alberta	10	5				Edmonton	2	1	2	1	4	2
						Calgary	2	1				
British Columbia	12	6				Vancouver	6	3	3	2	3	1
Total	**100**	**50**				**Total**	**33**	**16**	**32**	**17**	**35**	**17**

Note: I: Interview clusters.
P: Subsample of clusters for physical measures.

average of all sampled persons. The estimates of persons presented in the tables are rounded to the nearest thousand, which not only improves readability but also provides data at a meaningful level of precision and no more.

All estimates in this report except two are based on data collected in the period from July 1978 to March 1979. These two variables are Annual Disability Days and Health Opinion Survey (HOS). Estimates of Annual Disability Days used data collected by CHS during May 1978 and June 1978 and also estimates from data collecting in the United States. Details are given in Appendix III. The questions used to calculate the HOS were added to the survey after data collection had started. Therefore, HOS estimates are based on data collected from October 1978 to March 1979 in eastern and central Canada and from November 1978 to March 1979 in western Canada. More details are given in Chapter VII.

When a variable from the I-component is cross-classified by a variable from the P-component, the estimated marginal totals of the I-type variable differ from the estimated marginal totals when it is cross-classified by another variable from the I-component. This is because in the first case, the estimates are based only on those persons selected to receive both components, while in the second case, the estimates are based on all

selected persons. A similar situation occurs when a variable is cross-classified by the HOS, since the HOS data were not collected in all survey months.

Estimates of sampling error were calculated by using the method of replicated samples, taking each cluster as an independent sample within its stratum. A comparison of the weighted distribution of a given characteristic between all sampled clusters within a stratum is made. For this reason, a minimum of two sampled clusters per stratum is needed.[1] For variables from the P-component, it was necessary to collapse strata in order to achieve at least two sampled clusters per stratum. This method was adopted because it is relatively easy to calculate and would give good estimates at the level presented in each table cell, even for variables from the P-component. The sampling error in each table cell is presented in three broad categories and is discussed in more detail in the Overview. It should also be noted that estimates of sampling error include response variance as well as sampling variance.

[1] For estimates of sampling error for the I-component in Prince Edward Island, all three clusters were considered to be from the same stratum.

TEXT TABLE XIV. Number of Households Selected Per Assignment by Assignment Type and Survey Month

Survey month	Type of assignment			
	Household type (I)		Household type (P)	
	I	P	I	P
May 1978-Sept. 1978	10	0	10	7
Oct. 1978-Jan. 1979	18	0	13	7
Feb. 1979-Mar. 1979	18	0	13	10

Note: I: Interview clusters.
P: Subsample of clusters for physical measures.

Appendix III

CALCULATION OF ANNUAL DISABILITY DAYS

The Concept

The disability day concept discussed in Chapter VI is used to measure short-term disability associated with episodes of illness or injury. Disability days are classified as: (A) bed-days, (B) major activity-loss days (for those currently working, doing housework or attending school), (C) major activity-loss days which are also bed-days, and (D) cut-down days. A disability day is defined as any day for which the respondent was in bed, unable to perform his or her major activity, or cut down on things he or she usually does for all or most of the day. The questions used in the interview to obtain the number of days for each category are on page 190 of Appendix I. By eliminating major activity-loss days which are also bed-days, one can arrive at an estimate of total disability days (i.e., A + B + D - C).

Because of recall difficulties for respondents, the optimum time-frame used is the previous two weeks. This does not allow the classification of individuals according to their short-term disability experience over a year. However, by continuously surveying different people throughout the year, reports from individuals can be aggregated to an overall annual population estimate with a built-in control for seasonal variation. The final result is then presented as the number of disability days per person per year, for each type of disability day.

The Problem

Although the Canada Health Survey was designed to be continuous, data were only collected for all provinces from July 1978 through March 1979, resulting in incomplete or missing data for three months. Because disability-days display seasonal fluctuation, the calculation of annual estimates must therefore account for possible variations in the April-June period.

The Calculation

When interviews were conducted during the first week of a particular month, the two-week reference period would apply to the previous month, and hence the resulting disability days were shifted to more adequately reflect the month in which they occurred. By developing estimates of disability days per person per month in this fashion, it was possible to obtain at least partial estimates for 10 months rather than nine.

These monthly estimates were then plotted and compared with similar graphs using unpublished data from the United States National Health Interview Survey for the 1978 calendar year. The comparisons showed very similar seasonal trends with the exception that the American curve lagged the Canadian curve slightly — a phenomenon most likely explained by the innovation of the reference month adjustment technique in the Canada Health Survey. The United States data suggested that the two missing months (April and May) for the Canadian data would lie in a straight line downward trend between March and June. This held true for all age groups and types of days plotted. Monthly estimates were also calculated by region to ensure that seasonal fluctuations did not differ geographically and all regions showed similar trends surrounding the months to be interpolated. Thus, estimates of average disability days per person per month were interpolated for April and May.

Since this interpolation would apply to all possible cross-classifications, the calculation of a weight to produce annual estimates is quite straightforward. If data were available for all 12 months, the disability days reported by each individual for the two-week reference period could be multiplied by 26, aggregated over all individuals, and divided by the total population to obtain an estimate of disability days **per person per year** without concern for seasonal variation. Since this was not the case, disability days per person **per month** were summed using interpolated values for the two missing months to give an estimate of disability days per person per year. Knowing the average disability days per person per year (adjusted for seasonal variation), the average disability days per person per two-week period (based on ten months of data) were adjusted by a weighting factor which is slightly different than 26. The weighting factor was calculated by dividing average days per person per year by average days per person per two-week period.

The calculation of the weighting factor must be done separately for each type of day (bed-days, major activity-loss days, cut-down days and total disability days), since the trends vary slightly. The calculation can best be shown in terms of an example.

Consider the case of bed-days where we know the rate of days per two-week period for ten months. These rates were inflated to bed-days per person per month by multiplying by a factor of (x/14) where x represents the number of days in a particular month (see Text Table XV).

The monthly estimates for April and May were derived from the following figure, assuming a straight-line interpolation between March and June, as justified by the corresponding United States data.

TEXT TABLE XV. Monthly Estimates of Bed-days Per Person Per Two-week Period and Bed-days Per Person Per Month, Canada, 1978-79

Reference month	Bed-days per person per two-week period	Bed-days per person per month
January	.272	.602
February	.231	.462
March	.187	.414
April	--	(.375)(1)
May	--	(.340)(1)
June	.142	.304
July	.171	.378
August	.191	.422
September	.187	.400
October	.208	.460
November	.230	.492
December	.234	.518
Mean (for 10 two-week periods)	**.2053**	
Total, 12 months		**5.167**

(1) Interpolated.

By using the interpolated values for April and May from Figure IX, an annual estimate of 5.167 bed-days per person was calculated from Text Table XV by simply adding the monthly rates. From the first column in Text Table XV, an average number of bed-days per person per two-week period of .2053 was calculated based on 10 monthly reference periods. The weighting factor by which average bed-days per two-week period was multiplied to obtain an annual aggregate estimate was obtained by dividing the average days per person per two-week period (.2053) into the annual estimate of 5.167 days per person per year. This result is 25.168.

Hence, when deriving annual estimates of bed-days, the number reported for each individual must be multiplied by 25.168 and the results aggregated for all individuals to obtain an annual estimate adjusted for seasonal variation. It should be noted that this estimation technique is only valid for aggregate population estimates and cannot be used to classify individuals according to their short-term disability experience.

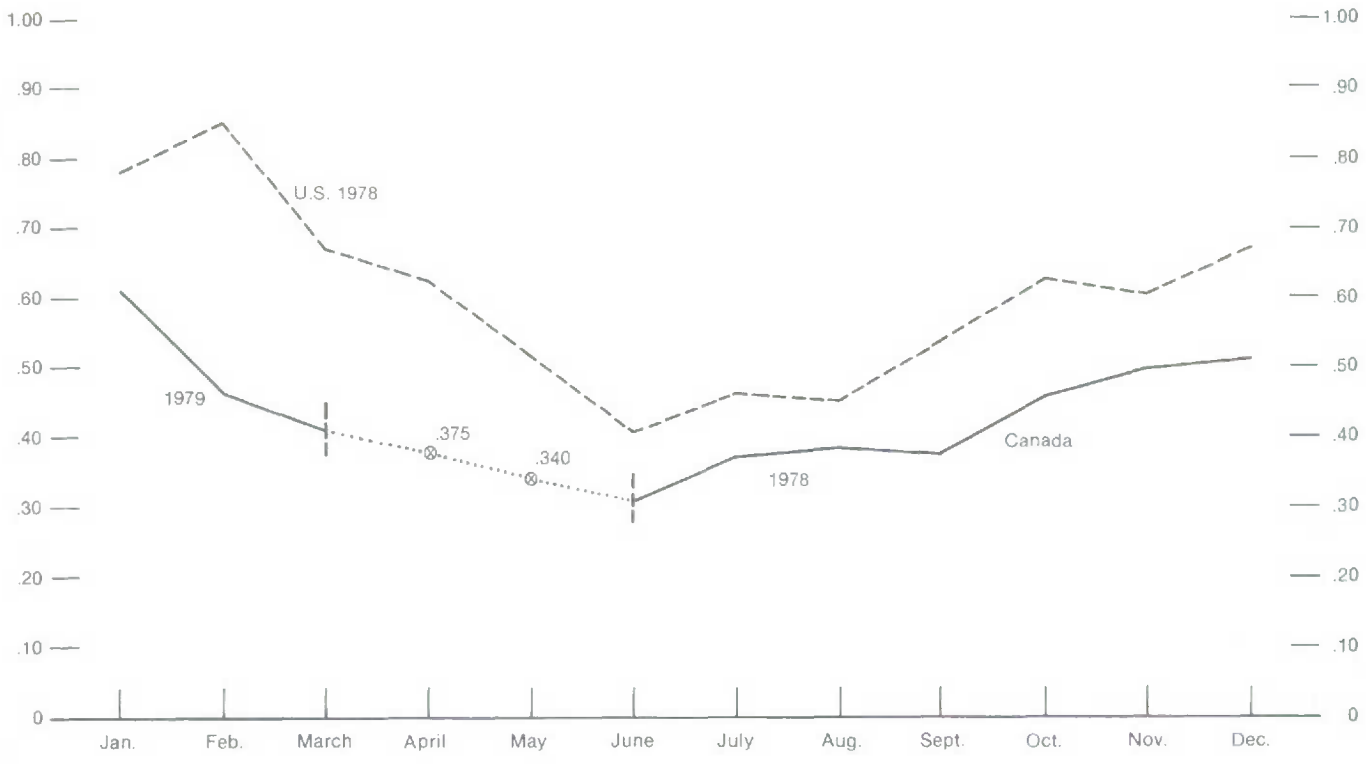
Using a similar technique for the three other types of days, the following weighting factors were assigned:

Bed-days	25.168
Major activity-loss days	25.201
Cut-down days	24.788
Total disability-days	25.012

Once disability days per two-week period were aggregated, the weighting factor was applied to calculate an annual estimate which, when divided by the total population, resulted in an annual aggregate rate of days per person.

Figure IX

Bed-days Per Person Per Month, Canada, 1978-79, U.S., 1978



Appendix IV

PRINCIPAL CONTRIBUTORS

A project of the magnitude and scope of the Canada Health Survey requires substantial monetary and human resources. The total budget over the 5 ½-year life of the survey approximated $6 million; this amount was about equally divided between the development and implementation periods, and was shared by the two sponsoring departments.

In November, 1975, a project team was created with membership from Statistics Canada and Health and Welfare Canada. Working continually in shared premises, the head office team comprised 50 people at its peak. But membership fluctuated as the project evolved and different specialties were required, boosting actual numbers even higher. Listed below under the major responsibilities of each department are the principal individuals involved in the conception and design at various stages; many of these people played several roles. To this number must be added a lengthy list of people who performed with dedication the many — often-repeated — tasks in a survey of 40,000 people: the head office clerical staff; the interviewers, nurses and their supervisors; the technical staff in the field and the central laboratories; and the data processing clerks, operators and programmers.

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