

Ambulatory surgery in 1994–1995: The state of the art in 29 OECD countries

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1. Introduction

Few health professionals or governments dispute the fact that, for many procedures, ambulatory surgery is an alternative to traditional hospitalisation and is likely to radically change hospital practice. It responds positively to the expectations of both patients and health care personnel and provides an opportunity to improve quality. Finally, it permits a better use of available resources. However, it is necessary for governments to put into play useful and equitable policies and to this end they require a factual base.

Little data has been released. Its reliability has been found to be highly questionable, even whimsical and none has led to valid inter-country comparisons. The sources of that information, when not based on a single individual's sample, are typically not cited. The data encountered are either fragmentary or relate to global ratios or percentages that cannot be validated.

2. Scope and methods

To answer the question on the current volume of ambulatory surgery and to compare prevalence levels and trends throughout the world, the International Association for Ambulatory Surgery (IAAS) and the Organization for Economic Cooperation and Development (OECD) launched a joint survey among their members and correspondents. The results are presented in this article.

Important methodological difficulties surrounded this attempt, affecting the conduct of the survey and the homogeneity of the findings. These included:

1. The estimation of the total surgical market and the share performed on an ambulatory basis;
2. The identification of the procedures selected according to national or international coding systems so as to assure a high degree of homogeneity.

To circumvent these inherent difficulties, the survey selected significant and representative groups of procedures that would allow a valid measure of the performance levels of the countries to be analysed and compared. The survey focused on two types of intervention. Firstly, a list of 18 reference groups of procedures frequently performed in conventional in-patient settings, but also currently practised in a day setting as well. The second category of procedures, much less numerous, related to two groups of procedures which are seldom undertaken in a day setting at present, but which appear likely to join the first list shortly.

The method of identification of the selected procedures was determined. Numerous classifications, some international, some national, are used in the countries surveyed. A generic name was given to the 20 reference groups of procedures just described. Each heading may include a variable number of procedures, each with its own description and code number, depending on each country's recording methods. To circumvent this hurdle as best as possible, the survey offered a choice between three types of coding: the Diagnostic Related Group (DRG) 10th version and the International Classification of Diseases—Clinical Modification (ICD9CM) 4th version (both commonly used internationally), as well as a free classification for respondents from countries using a national coding system. The codes of DRG and

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Table 1
The 20 reference procedures: coding systems used

No.	Group	ICD9CM (V4)	DRG (V10)	Free classification
1	Knee arthroscopy	8026	232	
		806	222	
2	Extraction of impacted teeth	2319	187	
3	Cataract surgery	1319	39	
		1341		
		1359		
		1370		
		1371		
4	Inguinal and femoral hernia	5300	162	
		5310	163	
		5321		
		5329		
		5331		
		5339		
		5341		
		5349		
539				
5	Dilatation and curettage uterus	6909	364	
		6816		
6	Vein ligation and stripping	3859	119	
7	Tonsillectomy w. or w/o adenoidectomy	282	59	
		283		
		286		
8	Myringotomy	2001	61	
			62	
9	Laparoscopic sterilization	662*	361	
10	Squint surgery	154	40	
			41	
11	Submucous resection	215	55	
12	Excision of breast lump	8521	262	
		8535		
13	Anal procedures	9623	158	
		4911		
		4912		
		4944		
		4945		
		4946		
		495		
		4973		
14	Circumcision	640	342	
			343	
15	Dupuytren	8235	229	
16	Carpal tunnel decompression	443	006	
17	Orchidopexy–varicocele	625	339	
		631	340	
18	Removal of implanted devices from bone	786*	230	
			231	
19	Cholecystectomy laparoscopic	5123	787	
			788	
20	Vaginal hysterectomy	685	355	
			357	

Table 2
General table of responses

No answer	Response data		
	Not presently available	Insufficient	Included
Austria	Czech Republic	Italy	Australia
France	Greece	Mexico	Belgium
Japan	Hungary	Norway	Canada
Korea	Iceland		Denmark
Sweden	Poland	Spain	Finland
	Switzerland		Germany
	Turkey		Ireland
			Luxembourg
			Netherlands
			New Zealand
			Portugal
			United Kingdom
			United States

ICD9CM procedures entering the 20 groups selected were supplied. Respondents using the free classification were invited to specify the contents of the 20 groups listed (Table 1). The overall purpose was to ensure that each number, entered at group level, would comprise a similar range of procedures, thus giving statistically meaningful and comparable numbers.

To reduce interpretation problems, ambulatory surgery was defined as elective surgery performed under general or local anaesthesia, previously or still widely conducted in an in-patient setting with overnight stay, that can be safely carried out in a day setting, requiring no overnight stay but sophisticated technical support and specific organisational procedures, including post-operative surveillance.

3. Results

The national administrations and learned societies or professional associations of 29 OECD countries were

contacted (Table 2). Among these, responses were received from 24 countries. Of these countries, seven (Czech Republic, Greece, Hungary, Iceland, Poland, Switzerland and Turkey) indicated that they were unable to provide any data on ambulatory surgery at the present time. Five countries did not respond (Austria, France, Japan, Korea and Sweden).

Despite receiving a sizeable amount of information, the data for four countries (Italy, Mexico, Norway and Spain) was judged too fragmented or difficult to interpret to allow its inclusion with other countries with quantified information in a comparative international study (Table 3). Thirteen countries (Australia, Belgium, Canada, Denmark, Finland, Germany, Ireland, Luxembourg, the Netherlands, New Zealand, Portugal, the United Kingdom and the United States) provided complete or reasonably comprehensive and precise information. The data from these countries related to the year 1994 or 1995.

The thirteen countries included have between them, five distinct coding systems, with well over half using the ICD9CM coding system. Six countries used the DRG classification alone (Denmark and Finland) or in addition to the ICD9CM coding system.

Tables 4–16 show the percentage of surgical procedures in ambulatory surgery in each country analysed and for each group of operations.

There are significant disparities among often relatively homogenous countries, with sometimes surprising reversals.

Care is required with respect to the reliability and comprehensiveness of these findings, as in all 'first of its kind' surveys. Assuming the accuracy and thoroughness of the facts sent back by the best sources available in these 13 countries, the United States exhibits the highest rates. It is followed by Canada, the Netherlands and New Zealand.

Recent articles in the medical literature claim the possibility of conducting certain operations, such as laparoscopic cholecystectomy, on an ambulatory basis. This was found to be the case only in the United States.

Table 3
Countries excluded: reasons

Country	Comment
Spain	Statistics provided resulted from a survey to which 37% of public and private hospitals questioned responded. Only percentages were supplied. Several reference groups of procedures were not documented. The data reported in the sample concern only those hospitals performing ambulatory surgery, thus, a non random sample not useful for international comparisons, of 21% of Spanish hospitals.
Italy	National data but not allowing any distinction between cases of ambulatory surgery and patients hospitalized for a day.
Mexico	Data concerning 20% of hospitals. The distinction between ambulatory surgery and short stay was not clearly established. Also, the total number of procedures given for the 20 groups of procedures appeared statistically insufficient (at 70 000) for a population of more than 90 million inhabitants.
Norway	The data provided dealt only with an extremely limited number of procedures.

Table 4
Statistics for Australia 1995–1996

		Australia 1995–1996			
Classification		ICD9CM			
Group		A	I	Total	%
1	Knee arthroscopy	29 920	45 833	75 753	39
2	Extraction of teeth	39 190	55 439	94 629	41
3	Cataract surgery	44 957	82 745	127 702	35
4	Inguinal and femoral hernia	8474	49 690	58 164	15
5	Dilatation and curetage uterus	37 094	44 338	81 432	46
6	Vein legation and stripping	2415	19407	21822	11
7	Tonsillectomy w. or w/o adenoïdectomy	530	33 253	33 783	2
	Adenoïdectomy	2922	5585	8507	34
8	Myringotomy	27 202	30 117	57 319	47
9	Laparoscopic sterilization	12 163	15 208	27 371	44
10	Squint surgery	162	304	466	35
11	Submucous resection (ENT)	193	3495	3688	5
12	Excision of breast lump	12 690	20 784	33 474	38
13	Anal procedures	8847	23 926	32 773	27
14	Circumcision	12 107	15 198	27 305	44
15	Dupuytren	1247	3929	5176	24
16	Carpal tunnel decompression	13 416	19 819	33 235	40
17	Orchidopexy–Varicocoele	3607	7017	10624	34
18	Removal of implanted devices from bone	10 741	20 370	31 111	35
	Total 1–18	267 877	496 457	764 334	35
19	Cholecystectomy laparoscopic	197	31 537	31 734	1
20	Vaginal hysterectomy	8	14 128	14 136	0
	Total 19–20	205	45 665	45 870	0
		268 082	542 122	810 204	33

Complete data concerning public and private hospitals; Source: Australian Institute of Health and Welfare (Hospital Morbidity Database).

Table 5
Statistics for Belgium 1995

		Belgium (1995)			
Classification		ICD9CM			
Group		A	I	Total	%
1	Knee arthroscopy	19 618	44 590	64 208	31
2	Extraction of teeth	18 197	11 885	30 082	60
3	Cataract surgery	18 913	47 996	66 909	28
4	Inguinal and femoral hernia	1366	17 786	19 152	7
5	Dilatation and curetage uterus	9874	13 227	23 101	43
6	Vein legation and stripping	4600	16 127	20 727	22
7	Tonsillectomy w. or w/o adenoïdectomy	8549	17 802	26 351	32
	Adenoïdectomy	17 409	6212	23 621	74
8	Myringotomy	20 867	7480	28 347	74
9	Laparoscopic sterilization	2989	5883	8872	34
10	Squint surgery	102	824	926	11
11	Submucous resection (ENT)	234	5197	5431	4
12	Excision of breast lump	977	5389	6366	15
13	Anal procedures	1755	8887	10 642	16
14	Circumcision	8442	5300	13 742	61
15	Dupuytren	628	1133	1761	36
16	Carpal tunnel decompression	8284	3947	12 231	68
17	Orchidopexy–Varicocoele	1463	4509	5972	24
18	Removal of implanted devices from bone	8970	13 766	22 736	39
	Total 1–18	153 237	237 940	391 177	39
19	Cholecystectomy laparoscopic	36	11 493	11 529	0
20	Vaginal hysterectomy	1	7141	7142	0
	Total 19–20	37	18 634	18 671	0
		153 274	256 574	409 848	37

Complete data concerning public and private hospitals. Other classifications are available: INAMI (national) and DRG; Source: Ministère des Affaires Sociales, de la Santé Publique et de l'Environnement (Commission RCM).

Table 6
Statistics for Canada 1995–1996

Classification		Canada (1995–1996)			
		CCP (*1) and DRG (*2)			
		Group	A	I	Total
1	Knee arthroscopy	35 881	3402	39 283	91
2	Extraction of teeth	29 726	1690	31 416	95
3	Cataract surgery	201 017	11 607	212 624	95
4	Inguinal and femoral hernia	28 430	35 788	64 218	44
5	Dilatation and curetage uterus	11 196	1204	12 400	90
6	Vein legation and stripping	8955	5066	14 021	64
7	Tonsillectomy w. or w/o adenoïdectomy	19 163	18 863	38 026	50
	Adenoïdectomy	15 112	1798	16 910	89
8	Myringotomy	37 340	560	37 900	99
9	Laparoscopic sterilization	21 439	3696	25 135	85
10	Squint surgery	7962	1214	9176	87
11	Submucous resection (ENT)	12 084	4406	16 490	73
12	Excision of breast lump	23 833	3197	27 030	88
13	Anal procedures	12 718	9391	22 109	58
14	Circumcision	14 548	29 654	44 202	33
15	Dupuytren	10 161	1439	11 600	88
16	Carpal tunnel decompression	26 161	728	26 889	97
17	Orchidopexy–Varicocoele	5266	2216	7482	70
18	Removal of implanted devices from bone	15 508	4793	20 301	76
	Total 1–18	536 500	140 712	677 212	79
19	Cholecystectomy laparoscopic	8066	69 214	77 280	10
20	Vaginal hysterectomy	27	19 213	19 240	0
	Total 19–20	8093	88 427	96 520	8
		544 593	229 139	773 732	70

(*1) Canadian Classification of Procedures issued (CCP). Complete data from 4 of 10 provinces: Alberta, British Columbia, New Brunswick and Ontario (60% of the Canadian population). Hospital categories are not indicated. Source: Canadian Institute for Health Information (C.I.H.I.). (*2) Complete data concerning public hospitals. Of Quebec (26% of the Canadian population) DRG classification is used. Source: Québec, Ministère de la Santé et des Services Sociaux, Direction de la recherche et de l'évaluation.

Table 7
Statistics for Denmark 1995

Classification		Denmark (1995)			
		DRG			
		Group	A	I	Total
1	Knee arthroscopy	7611	9334	16 945	45
2	Extraction of teeth	1876	521	2397	78
3	Cataract surgery	14 379	5409	19 788	73
4	Inguinal and femoral hernia	1693	6636	8329	20
5	Dilatation and curetage uterus	5072	6131	11 203	45
6	Vein legation and stripping	1375	2982	4357	32
7	Tonsillectomy w. or w/o adenoïdectomy	115	4925	5040	2
	Adenoïdectomy				
8	Myringotomy	206	367	573	36
9	Laparoscopic sterilization	117	2012	2129	5
10	Squint surgery	2034	1399	3433	59
11	Submucous resection (ENT)	726	3106	3832	19
12	Excision of breast lump	939	1550	2489	38
13	Anal procedures	1214	4594	5808	21
14	Circumcision	839	1030	1869	45
15	Dupuytren	2051	3521	5572	37
16	Carpal tunnel decompression				
17	Orchidopexy–Varicocoele	627	2722	3349	19
18	Removal of implanted devices from bone	3250	6526	9776	33
	Total 1–18	44 124	62 765	106 889	41
19	Cholecystectomy laparoscopic				
20	Vaginal hysterectomy	17	888	905	2
	Total 19–20	17	888	905	2
		44 141	63 653	107 794	41

Data refer to public hospitals. Data for groups 16 and 19 are missing. Source: Ministry of Health.

Table 8
Statistics for Finland 1995

Classification Group	Finland (1995)				
	FinDRG				
	A	I	Total	%	
1	Knee arthroscopy	163	2518	2681	6
2	Extraction of teeth				
3	Cataract surgery	7808	15 612	23 420	33
4	Inguinal and femoral hernia	1324	6998	8322	16
5	Dilatation and curetage uterus	4331	4056	8387	52
6	Vein legation and stripping	2549	6807	9356	27
7	Tonsillectomy w. or w/o adenoïdectomy	120	3936	4056	3
	Adenoïdectomy	3049	4900	7949	38
8	Myringotomy	121	21	142	85
9	Laparoscopic sterilization	3363	2626	5989	56
10	Squint surgery	1026	1407	2433	42
11	Submucous resection (ENT)				
12	Excision of breast lump	43	297	340	13
13	Anal procedures	779	3620	4399	18
14	Circumcision	589	410	999	59
15	Dupuytren	493	632	1125	44
16	Carpal tunnel decompression				
17	Orchidopexy–Varicocoele	111	594	705	16
18	Removal of implanted devices from bone				
	Total 1–18	25 869	54 434	80 303	32
19	Cholecystectomy laparoscopic				
20	Vaginal hysterectomy				
	Total 19–20	25 869	54 434	80 303	32

Finnish classification for DRG (FinDRG) and Finnish classification of surgical procedures. Data concerning public and private hospitals. Data for groups 2, 11, 16, 18, 19 and 20 are missing. Group 1: includes all arthroscopy. Group 4: includes only inguinal hernia procedures for patients age > 17. Group 10: includes all extra ocular procedures, not only squint surgery. Source: National Research and Development Centre for Welfare and Health (Health Statistics and Registers Unit).

Table 9
Statistics for Germany 1994

Classification Group	Germany (1994)				
	EBM A	ICD9 I	Total	%	
	1	Knee arthroscopy	172 192	206 600	378 792
2	Extraction of teeth				
3	Cataract surgery	66 320	205 000	271 320	24
4	Inguinal and femoral hernia	13 316	243 800	257 116	5
5	Dilatation and curetage uterus	112 840	290 800	403 640	28
6	Vein legation and stripping	63 124	65 800	128 924	49
7	Tonsillectomy w. or w/o adenoïdectomy				
	Adenoïdectomy				
8	Myringotomy				
9	Laparoscopic sterilization				
10	Squint surgery				
11	Submucous resection (ENT)				
12	Excision of breast lump	9140	71 200	80 340	11
13	Anal procedures				
14	Circumcision	45 688	40 600	86 288	53
15	Dupuytren	8524	12 000	20 524	42
16	Carpal tunnel decompression				
17	Orchidopexy–Varicocoele				
18	Removal of implanted devices from bone	15 080	100 600	115 680	13
	Total 1–18				
19	Cholecystectomy laparoscopic				
20	Vaginal hysterectomy				
	Total 19–20				

Public and private German hospitals perform very little ambulatory surgery (which has been authorized there only since January 1, 1993). Ambulatory surgery is practiced in private free standing clinics not equipped for hospital stays. Hospitals (ICD9 modified) and private clinics (EBM) use two different coding systems. Groups 2, 7, 8, 9, 10, 11, 13, 16, 17, 19 and 20 are missing. Source: Zentral Institute des Kassenärztliche Bundesvereinerung, Statistisches Bundesamt.

Table 10
Statistics for Ireland 1994

Classification		Ireland (1994)			
		ICD9CM (V.12)			
Group		A	I	Total	%
1	Knee arthroscopy	1629	1582	3211	51
2	Extraction of teeth	1546	828	2374	65
3	Cataract surgery	292	2328	2620	11
4	Inguinal and femoral hernia	26	987	1013	3
5	Dilatation and curetage uterus	2616	3937	6553	40
6	Vein legation and stripping	577	3014	3591	16
7	Tonsillectomy w. or w/o adenoïdectomy	22	5875	5897	0
	Adenoïdectomy	27	1072	1099	2
8	Myringotomy	3562	993	4555	78
9	Laparoscopic sterilization	873	640	1513	58
10	Squint surgery	1	5	6	17
11	Submucous resection (ENT)	19	297	316	6
12	Excision of breast lump	1682	1078	2760	61
13	Anal procedures	408	423	831	49
14	Circumcision	1287	1039	2326	55
15	Dupuytren	16	272	288	6
16	Carpal tunnel decompression	196	404	600	33
17	Orchidopexy–Varicocoele	469	1095	1564	30
18	Removal of implanted devices from bone	1379	1701	3080	45
	Total 1–18	16 627	27 570	44 197	38
19	Cholecystectomy laparoscopic	4	2272	2276	0
20	Vaginal hysterectomy	1	1060	1061	0
	Total 19–20	5	3332	3337	0
		16 632	30 902	47 534	35

Complete data concerning public hospitals. DRG classification is also available. Source: Department of Health (Irish Health Statistics).

Table 11
Statistics for Luxembourg 1995

Classification		Luxembourg (1995)			
		ICD9CM			
Group		A	I	Total	%
1	Knee arthroscopy	120	2114	2234	5
2	Extraction of teeth	910	94	1004	91
3	Cataract surgery	2	12	14	14
4	Inguinal and femoral hernia	50	1496	1546	3
5	Dilatation and curetage uterus	112	943	1055	11
6	Vein legation and stripping	22	875	897	2
7	Tonsillectomy w. or w/o adenoïdectomy	12	1794	1806	1
	Adenoïdectomy	277	1224	1501	18
8	Myringotomy	519	1335	1854	28
9	Laparoscopic sterilization	2	294	296	1
10	Squint surgery	2	42	44	5
11	Submucous resection (ENT)	2	26	28	7
12	Excision of breast lump	7	101	108	6
13	Anal procedures	320	413	733	44
14	Circumcision	207	646	853	24
15	Dupuytren	2	93	95	2
16	Carpal tunnel decompression	81	559	640	13
17	Orchidopexy–Varicocoele	14	290	304	5
18	Removal of implanted devices from bone	434	578	1012	43
	Total 1–18	3095	12 929	16 024	19
19	Cholecystectomy laparoscopic	0	529	529	0
20	Vaginal hysterectomy	0	731	731	0
	Total 19–20	0	1260	1260	0
		3095	14 189	17 284	18

Complete data concerning public and private hospitals. Other classification is available: DRG (version 10). Source: Inspection Générale de la Sécurité Sociale.

Table 12
Statistics for The Netherlands 1995

		Netherlands (1995)			
Classification		ICD9CM			
Group		A	I	Total	%
1	Knee arthroscopy	21 093	6072	27 165	78
2	Extraction of teeth	126	78	204	62
3	Cataract surgery	34 378	82 954	117 332	29
4	Inguinal and femoral hernia	7460	25 223	32 683	23
5	Dilatation and curetage uterus	428	506	934	46
6	Vein legation and stripping	4514	8308	12 822	35
7	Tonsillectomy w. or w/o adenoïdectomy	28 275	4979	33 254	85
	Adenoïdectomy	28 074	921	28 995	97
8	Myringotomy	46 454	741	47 195	98
9	Laparoscopic sterilization	13 597	1356	14 953	91
10	Squint surgery				
11	Submucous resection (ENT)	1050	9530	10 580	10
12	Excision of breast lump	4152	5683	9835	42
13	Anal procedures	2114	5270	7384	29
14	Circumcision	13 557	1134	14 691	92
15	Dupuytren	2997	1773	4770	63
16	Carpal tunnel decompression	10 662	2707	13 369	80
17	Orchidopexy–Varicocoele	2817	2331	5148	55
18	Removal of implanted devices from bone	8720	8488	17208	51
	Total 1–18	230 468	168 054	398 522	58
19	Cholecystectomy laparoscopic	3	10 553	10 556	0
20	Vaginal hysterectomy				
	Total 19–20	3	10 553	10 556	0
		230 471	178 607	409 078	56

Hospital categories are not detailed. Data for groups 10 and 20 are missing. Source: Dutch Centre for Health Care Information (S.I.G.).

Table 13
Statistics for New Zealand 1995

		New Zealand (1995)			
Classification		ICD9CMA			
Group		A	I	Total	%
1	Knee arthroscopy	1547	1073	2620	59
2	Extraction of teeth	3676	1017	4693	78
3	Cataract surgery	2634	3469	6103	43
4	Inguinal and femoral hernia	1522	2621	4143	37
5	Dilatation and curetage uterus	5975	4439	10 414	57
6	Vein legation and stripping	410	610	1020	40
7	Tonsillectomy w. or w/o adenoïdectomy	1059	3415	4474	24
	Adenoïdectomy	1222	201	1423	86
8	Myringotomy	8601	1308	9918	87
9	Laparoscopic sterilization	2388	539	2927	82
10	Squint surgery	642	228	870	74
11	Submucous resection (ENT)	6	186	192	3
12	Excision of breast lump	1139	930	2069	55
13	Anal procedures	688	2142	2830	24
14	Circumcision	552	240	792	70
15	Dupuytren	179	288	467	38
16	Carpal tunnel decompression	1255	415	1670	75
17	Orchidopexy–Varicocoele	377	593	970	39
18	Removal of implanted devices from bone	1290	1511	2801	46
	Total 1–18	35 171	25 225	60 396	58
19	Cholecystectomy laparoscopic	5	1159	1164	0
20	Vaginal hysterectomy	3	1116	1119	0
	Total 19–20	8	2275	2283	0
		35 179	27 500	62 679	56

Classification ICD9CM Australian version. Complete data concerning public hospitals. Source: Ministry of Health (Sector Analysis).

Table 14

Country	Portugal				Comments	
Year	1995				Complete data referring to public hospitals	
Classification	ICD9CM				Other classification is available: DRG	
Group	A	I	Total	%		
1	Knee arthroscopy	54	2118	2171	2	
2	Extraction of teeth	190	257	447	43	
3	Cataract surgery	46	15 015	15 061	0	
4	Inguinal and femoral hernia	877	13 918	14 795	6	
5	Dilatation and curetage uterus	2675	5257	7932	34	
6	Vein legation and stripping	69	2912	2981	2	
7	Tonsillectomy w. or w/o adenoïdectomy	76	3689	3765	2	
	Adenoïdectomy	145	3269	3414	4	
8	Myringotomy	66	1695	1761	4	
9	Laparoscopic sterilization	322	1035	1357	24	
10	Squint surgery	7	167	174	4	
11	Submucous resection (ENT)	11	166	177	6	
12	Excision of breast lump	338	2011	2349	14	
13	Anal procedures	160	1646	1806	9	
14	Circumcision	1083	2182	3265	33	
15	Dupuytren	122	375	497	25	
16	Carpal tunnel decompression	399	1281	1680	24	
17	Orchidopexy–Varicocoele	314	1501	1815	17	
18	Removal of implanted devices from bone	267	3996	4263	6	
	Total 1–18	7221	62 490	69 711	10	Source
19	Cholecystectomy laparoscopic	5	2601	2606	0	Ministry of health
20	Vaginal hysterectomy	4	1270	1274	0	Instituto de Gestao Information and Fin-nanceira de Saude (IGIF)
	Total 19–20	9	3871	3880	0	
		7230	66 361	73 591	10	

Table 15
Statistics for United Kingdom 1994–1995

Classification	United Kingdom (1994–1995)				
	OPCS (1)				
Group	A	I	Total	%	
1	Knee arthroscopy	45 193	30 395	75 588	60
2	Extraction of teeth	92 771	44 862	137 633	67
3	Cataract surgery	60 435	102 396	162 831	37
4	Inguinal and femoral hernia	23 003	68 000	91 003	25
5	Dilatation and curetage uterus	50 207	37 003	87 210	58
6	Vein legation and stripping	16 023	30 344	46 367	35
7	Tonsillectomy w. or w/o adenoïdectomy	1940	78 059	79 999	2
	Adenoïdectomy	3641	13 653	17 294	21
8	Myringotomy	42 698	13 836	56 534	76
9	Laparoscopic sterilization	37 061	14 404	51 465	72
10	Squint surgery	6090	9025	15 115	40
11	Submucous resection (ENT)	512	12 427	12 939	4
12	Excision of breast lump	15 251	16 815	32 066	48
13	Anal procedures	21 592	30 360	51 952	42
14	Circumcision	20 145	10 376	30 521	66
15	Dupuytren	2525	7693	10 218	25
16	Carpal tunnel decompression	22 404	7220	29 624	76
17	Orchidopexy–Varicocoele	6555	6225	12 780	51
18	Removal of implanted devices from bone	9047	20 541	29 588	31
	Total 1–18	477 093	553 634	103 0727	46
19	Cholecystectomy laparoscopic	101	21 207	213 08	0
20	Vaginal hysterectomy	68	15 460	15 528	0
	Total 19–20	169	36 667	36 836	0
		477 262	590 301	1067 563	45

Complete data referring to public hospitals only in England. Activity in private hospitals is relatively limited as compared to public hospitals. It should be noted that these concentrate on elective surgery that is likely done as ambulatory surgery. Source: Department of Health.

Table 16
Statistics for United States 1994

Classification		United States (1994)			
		ICD9CM			
		A	I	Total	%
1	Knee arthroscopy	546 000	38 000	584 000	93
2	Extraction of teeth	28 000	*	28 000	100
3	Cataract surgery	1650 000	52 000	1702 000	97
4	Inguinal and femoral hernia	542 000	1000 000	642 000	84
5	Dilatation and curetage uterus	347 000	28 000	375 000	93
6	Vein legation and stripping	33 000	8000	41 000	80
7	Tonsillectomy w. or w/o adenoïdectomy	334 000	40 000	374 000	89
	Adenoïdectomy	81 000	*	81 000	100
8	Myringotomy	471 000	17 000	488 000	97
9	Laparoscopic sterilization	205 000	9000	214 000	96
10	Squint surgery				
11	Submucous resection (ENT)	54 000	*	54 000	100
12	Excision of breast lump	326 000	21 000	347 000	94
13	Anal procedures	77 000	21 000	98 000	79
14	Circumcision	103 000	19 000	122 000	84
15	Dupuytren	18 000	*	18 000	100
16	Carpal tunnel decompression	338 000	7000	345 000	98
17	Orchidopexy–Varicocoele	70 000	*	70 000	100
18	Removal of implanted devices from bone	146 000	30 000	176 000	83
	Total 1–18	5369 000	390 000	5759 000	93
19	Cholecystectomy laparoscopic	170 000	304 000	474 000	36
20	Vaginal hysterectomy	5000	170 000	175 000	3
	Total 19–20	175 000	474 000	649 000	27
		5544 000	864 000	6408 000	87

Data are provided by the National Hospital Discharge Survey (NHDS) and the National Survey of Ambulatory Surgery (NSAS). They are national probability samples and as such, are subject to sampling error. Combining the NHDS and the NSAS, the spectrum of hospitals covered by the samples includes all non-Federal hospitals and free standing units that are licensed specifically for ambulatory surgery. An asterisk indicates that they were some sampled cases, but fewer than 30, hence very low reliability. Data for group 10 is missing. Source: National Center for Health Statistics (N.C.S.H.).

4. Discussion

A striking and notable observation from the survey is the lack of statistics or useful facts available in 11 of 24 countries responding to the questionnaire. This shortcoming is not restricted to ambulatory surgery activity but also, frequently extends to activity levels in conventional in-patient settings.

The ‘penetration rate’ of ambulatory surgery differs from one country to another. Some explanatory variables include: national medical culture and practice, the network of hospitals, the number of available beds, length of waiting lists, the regulatory systems and financing policies of public authorities and private health insurers, the training received by medical/paramedical personnel and the level of public awareness. The impact of these factors should be looked at separately.

It is tempting to establish a ranking of performance according to an overall index of all the operations

Table 18
Population: Thousand persons (1995)

Country	Persons	Males	Female
Australia	17.886	8.920	8.947
Belgium	10.127	4.961	5.167
Canada (*1)	25.523	12.653	12.870
Denmark	5.223	2.583	2.640
Finland	5.107	2.486	2.620
Germany	81.594	39.800	41.793
Ireland	3.546	1.771	1.775
Luxembourg	407	201	206
New Zealand	3.561	1.760	1.802
The Netherlands	15.482	7.665	7.818
Portugal	9.815	4.728	5.087
United Kingdom (*2)	48.903	23.996	24.907
United States	271.300	131.600	135.515

(*1) Provinces of Alberta, British Colombia, New Brunswick, Ontario and Quebec (representing 86% of the Canadian population).

(*2) England only.

Source: OECD.

Table 17
Ratios of ambulatory surgery

Group	AUS		B		CDN		DK (*1)		SF (*1)		D (*1)		IRL		L		NL (*1)		NZ		P		UK		US (*1)	
	1996	1995	1995	1995	1995–6	1995	1995	1995	1995	1995	1994	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1994	1994
1	39.5	30.6	91.3	44.9	6.1	45.5	50.7	5.4	77.6	57.4	2.5	59.8	93.5													
2	41.4	60.5	94.6	78.3			65.1	90.6	61.8	78.3	42.5	67.4	100.0													
3	35.2	28.3	94.5	72.7	33.3	24.4	11.1	14.3	29.3	43.2	0.3	37.1	96.9													
4	14.6	7.1	44.3	20.3	15.9	5.2	2.6	3.2	22.8	36.7	5.9	25.3	84.4													
5	45.6	42.7	90.3	45.3	51.6	28.0	39.9	10.6	45.8	57.4	33.7	57.6	92.5													
6	11.1	22.2	63.9	31.6	27.2	49.0	16.1	2.5	35.2	40.2	2.3	34.6	80.5													
7	1.6	32.4	50.4	2.3	3.0		0.4	0.7	85.0	23.7	2.0	2.4	89.3													
	34.3	73.7	89.4	38.4			2.5	18.5	96.8	85.9	4.2	21.1	100.0													
8	47.5	73.6	98.5	36.0	85.2		78.2	28.0	98.4	86.8	3.7	75.5	96.5													
9	44.4	33.7	85.3	5.5	56.2		57.7	0.7	90.9	81.6	23.7	72.0	95.8													
10	34.8	11.0	86.8	59.2	42.2		16.7	4.5		73.8	4.0	40.3														
11	5.2	4.3	73.3	18.9			6.0	7.1	9.9	3.1	6.2	4.0	100.0													
12	37.9	15.3	88.2	37.7	12.6	11.4	60.9	6.5	42.2	55.1	14.4	47.6	93.9													
13	27.0	16.5	57.5	20.9	17.7		49.1	43.7	28.6	24.3	8.9	41.6	78.6													
14	44.3	61.4	32.9	44.9	59.0	52.9	55.3	24.3	92.3	69.7	33.2	66.0	84.4													
15	24.1	35.7	87.6	36.8	43.8	41.5	5.6	2.1	62.8	38.3	24.5	24.7	100.0													
16	40.4	67.7	97.3				32.7	12.7	79.8	75.1	23.8	75.6	98.0													
17	34.0	24.5	70.4	18.7	15.7	13.0	30.0	4.6	54.7	38.9	17.3	51.3	100.0													
18	34.5	39.5	76.4	33.2			44.8	42.9	50.7	46.1	6.3	30.6	83.0													
Total 1–18	35.0	39.2	79.2	41.3	32.2		37.6	19.3	57.8	58.2	10.4	46.3	93.2													
19	0.6	0.0	10.4				0.2	0.0	0.0	0.4	0.2	0.5	35.9													
20	0.1	0.0	0.1	1.9			0.1	0.0	0.0	0.3	0.3	0.4	2.9													
Total 19–20	0.4	0.2	1.9				0.1	0.0	0.0	0.4	0.2	0.5	27.0													

Values are expressed as a percentage.
(*1) One or several groups missing.

Table 19
Number of procedures/1000 persons

Group	AUS	B	CDN	DK(*1)	SF(*1)	D(*1)	IRL	L	NL (*1)	NZ	P	UK	US(*1)
1 Knee arthroscopy	4.2	6.3	1.5	3.2	0.5	4.6	0.9	5.5	1.8	0.5	0.2	1.5	2.2
2 Extraction of teeth	5.3	3.0	1.2	0.5			0.7	2.5	0.0	1.3	0.0	2.8	0.1
3 Cataract surgery	7.1	6.6	8.3	3.8	4.6	3.3	0.7	0.0	7.6	1.7	1.5	3.3	6.3
4 Inguinal and femoral hernia	3.3	1.9	2.5	1.6	1.6	3.2	0.3	3.8	2.1	1.2	1.5	1.9	2.4
5 Dilatation and curetage uterus (*2)	9.1	4.5	1.0	4.2	3.2	9.7	3.7	5.1	0.1	5.8	1.6	3.5	2.8
6 Vein legation and stripping	1.2	2.0	0.5	0.8	1.8	1.6	1.0	2.2	0.8	0.3	0.3	0.9	0.2
7 Tonsillectomy w. or w/o adenoidectomy	1.9	2.6	1.5	1.0	0.8		1.7	4.4	2.1	1.3	0.4	1.6	1.4
Adenoidectomy	0.5	2.3	0.7		1.6		0.3	3.7	1.9	0.4	0.3	0.4	0.3
8 Myringotomy	3.2	2.8	1.5	0.1	0.0		1.3	4.6	3.0	2.8	0.2	1.2	1.8
9 Laparoscopic sterilization	1.5	0.9	1.0	0.4	1.2		0.4	0.7	1.0	0.8	0.1	1.1	0.8
10 Squint surgery	0.0	0.1	0.4	0.7	0.5		0.0	0.1	0.7	0.2	0.0	0.3	0.2
11 Submucous resection (ENT)	0.2	0.5	0.6	0.7			0.1	0.1	0.7	0.1	0.0	0.3	0.2
12 Excision of breast lump	1.9	0.6	1.1	0.5	0.1	1.0	0.8	0.3	0.6	0.6	0.2	0.7	1.3
13 Anal procedures	1.8	1.1	0.9	1.1	0.9		0.2	1.8	0.5	0.8	0.2	1.1	0.4
14 Circumcision (*3)	3.1	2.8	3.5	0.7	0.4	2.2	1.3	4.2	1.9	0.5	0.7	1.3	0.9
15 Dupuytren	0.3	0.2	0.5	1.1	0.2	0.3	0.1	0.2	0.3	0.1	0.1	0.2	0.1
16 Carpal tunnel decompression	1.9	1.2	1.1				0.2	1.6	0.9	0.5	0.2	0.6	1.3
17 Orchidopexy-Varicocele (*3)	1.2	1.2	0.6	1.3	0.3		0.9	1.5	0.7	0.6	0.4	0.5	0.5
18 Implanted devices	1.7	2.2	0.8	1.9		1.4	0.9	2.5	1.1	0.8	0.4	0.6	0.6
19 Total 1–18	49.5	42.8	29.1	23.6	17.6	27.2	15.4	44.8	27.1	20.1	8.4	23.7	23.4
Cholecystectomy laparoscopic	1.8	1.1	3.0				0.6	1.3	0.7	0.3	0.3	0.4	1.7
20 Vaginal hysterectomy (*2)	1.6	1.4	0.8	0.3			0.6	3.5		0.6	0.1	0.6	1.3
	3.4	2.5	3.8	0.3			1.2	4.8	0.7	0.9	0.4	1.1	3.0

(*1) One or several groups missing.

(*2) Only female population.

(*3) Only male population.

concerned (Table 17). In the authors opinion, the operations selected constitute a representative sample of the general activity in ambulatory surgery in a country, but it is a sample from which are excluded numerous operations which can be conducted on an ambulatory basis. Moreover, data concerning certain groups is missing for certain countries. Performance activity in certain categories of health institutions (private hospitals, health centres or medical offices) has not always been recorded. Coding omissions, questions of medical culture and the plethora of medical specialists and regulatory or financial incentives or obstacles could have an influence. Furthermore, it is not clear whether some numbers cited, mainly from the US, do not include a significant number of patients who spent well over a 'working day' in an ambulatory setting, with post-operative transfer for 23 h or more to medicalised recovery structures found next to some ambulatory surgical centres. Finally, additional investigations sometimes show very large variations in ratios of number of procedures per 1000 inhabitants from country to country (Tables 18 and 19). These diverse factors, as well as the greater or lesser feasibility of the ambulatory surgery approach in each group of procedures, could significantly influence the overall national scores.

5. Conclusions

In our view, despite flaws in the method and the difficulties already mentioned, the results of this survey nonetheless make a significant contribution to understanding the impact of ambulatory surgery at the international level, by comparing practices from one

country to another and in providing an information base that allows further study.

This instrument must of course be refined: the apparent anomalies must be investigated, the field of investigation must be further defined and enlarged and new countries should be included when data is available.

Nonetheless, there is the matter of a question which must be answered by governments and health professionals. Governments and professional associations should rise to the challenges made evident in this survey. Public authorities must fill a glaring lack of reliable statistics. The surgical profession, reflecting on this data, should be rethinking its practice options.

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