

International Medical Graduates in Canadian Post-M.D. Training Programs 1990 – 2002

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Background

This presentation will present data pertaining to the number of International Medical Graduates pursuing post-M.D. training in Canada.

Two main groups will be discussed separately: Canadian citizens (Includes Canadian citizens and permanent residents of Canada) and Visa trainees. The Canadian citizen IMG trainees have, for the most part, earned the M.D. degree in another country before coming to Canada. A small proportion of them, however were Canadian citizens prior to going abroad to study for and earn the M.D. degree. These two types of Canadian citizen/IMG trainees will not be distinguished in this paper.

Canadian citizen IMG trainees have the necessary legal requirements to live and work in Canada. They can work as physicians if they obtain the required certification and licensure requirements of the province or territory in which they seek employment. Visa trainees, on the other hand, are undertaking post-M.D. training in Canada with the necessary temporary employment visa required for training and are bound by the restrictions of the visa. The visa is renewed annually while the trainee is pursuing residency or fellowship training in Canada. Although some visa trainees do eventually become permanent residents and stay to practise medicine in Canada, the vast majority leave Canada when their training period finishes and their visa expires.

As the Canadian citizen/permanent resident trainees will eventually become new physicians for Canada, the main focus of this paper will be concerned with this group.

Canadian Citizen IMG Trainees

Trends 1990 – 2002

Table 1 gives the number of residents entering training at the R-1 level (for the first time) from 1990 to 2002 and compares the number of graduates of Canadian medical schools with the number of Canadian citizen IMG's entering training each year. In 1990, there were 110 IMG's entering residency in Canada and 1666 graduates of Canadian medical schools for a total of 1776 new entries to training. IMG's represented 6% of the entry cohort. This proportion remained relatively constant up to 2000 when there were 1447 graduates of Canadian medical schools and 77 (5% of the entry cohort) International Medical Graduates. Beginning in 2001, there was a major jump in both the number and proportion of International Medical Graduates entering training.

By 2002, Canadian citizen International Medical Graduates made up 12 % of the first year trainees (197 out of 1650).

First Year Trainees (Field of Training)

Table 2 gives the detailed data comparing the training fields of Canadian graduates and International graduates who were at the first year of training in 2002. Training fields with more than 10 entering trainees where the proportion of International Medical Graduates is especially higher than the overall proportion of IMG's (12%) are: Family Medicine (17%), Psychiatry (15%), Radiation Oncology (14%), Anatomical Pathology (19%) and Obstetrics/Gynecology (21%).

Country where the M.D. Degree was Earned

The group of 197 Canadian citizen International Medical Graduates who entered training in Canada in 2002 had earned their M.D. degrees throughout the world in a total of 56 countries. Countries which had the highest numbers of graduates in this entry cohort were India (22), Romania (16), Egypt (14), Iran (14), Pakistan (10), Poland (8) and Ukraine (8).

Canadian Citizen/Permanent Resident IMG Trainees at Exit from Training

Tables 3-A and 3-B compare the final field of training (at exit from training) of Canadian graduates and International graduates trained in the Canadian training programs since 1990.

In 1990, 53% of the Canadian M.D. graduates exited from Family Medicine programs whereas only 22% of the International Medical Graduates had completed Family Medicine. Looking at medical specialties in 1990, we find that 55% of the International Medical Graduates trained in them compared to 30% of the graduates of Canadian medical schools. Similarly, Laboratory Medicine specialties attracted a higher proportion of International Medical Graduates. Surgical specialties attracted similar proportions of both Canadian (15%) and International (16%) Medical Graduates.

By 2002, the proportions of IMG's and graduates of Canadian medical schools in each broad specialty area become similar. 39% of Canadian graduates vs. 33% of IMG's exited from Family Medicine. There was an increase in the proportion of Canadian M.D. graduates exiting from surgical fields (19%) and medical specialties remained popular with International Medical Graduates. Table 4 gives the detailed data concerning the final training fields of Canadian graduates and Canadian citizen IMG's at exit from training in 2002 (Figure 3A, 3B). The reasons behind this shift in the training fields of IMG's are complex and concern such factors as whether credit given for specialty training taken overseas, licensure requirements for general practice, physician resource needs and the popularity of specific training fields among Canadian graduates.

Currently, according to the Canadian Medical Association, International Medical Graduates make up 23% of the Canadian physician workforce. In 2002, 12% of those entering post-M.D. training were International Medical Graduates who were already Canadian citizens and we would expect that they would become practising physicians of Canada. This number is only one portion of the whole group of International Medical Graduates who enter practice in Canada each year. Some International Medical Graduates can enter practice directly with a temporary licence if they meet provincial licensure requirements and fill specific physician resource needs. Also, an increasing proportion of Visa trainees attain the legal status required to stay and work in Canada. We will go on to discuss the Visa trainees who train in Canada.

Visa Trainees

As discussed at the beginning of this paper, Visa trainees come to Canada to undertake post-M.D. training in a specific field with the intention that they will leave Canada when their training is completed. As a result, the proportion of this cohort training in each field is quite different from the physicians who planned to stay in Canada. These physicians came to Canada to seek special training opportunities, and as a result, 98% of those completing training were in the specialties with 34% being in the surgical fields. This pattern of training has been relatively stable over the past 12 years (Table 3-C).

The number of Visa physicians training in Canada has been increasing steadily.

Figure 2 shows that in 1990 there were 779 Visa trainees in the Canadian post-M.D. training programs across all rank levels. By 2002, this number had increased to 1679 physicians.

Retention in Canada at Completion of Post-M.D. Training

It is not expected that Visa trainees will remain in Canada. However, some do acquire permanent residency status of Canada and become practising physicians in Canada after completion of training.

Table 5 describes the 5-year retention in Canada of the Visa trainees who exited training in Canada from 1990 to 1996. Overall, 19% (n=444) of this group remained in Canada. On an annual basis this means that about 65 Visa trainees remained in Canada each year. Ontario was the eventual practice location for 48% of this cohort. As the number of Visa trainees training in Canada has increased greatly between 1996 (n=926) and 2002 (n=1679) we would expect that the number staying in Canada each year will increase.

Visa trainees who remain in Canada have a final specialty mix which differs from the Canadian M.D. graduates and also the Canadian citizen IMG group. 64% of the Visa trainees who remained in Canada had trained in the medical specialties, and 29% had trained in the surgical specialties.

Conclusions

The number of Canadian citizen IMG trainees entering post-M.D. training in the first year of training in Canada has increased markedly in the last 2 years (2001 and 2002) so that 12% of first year training cohort is Canadian citizen IMG residents. In the past, the fields of training differed from Canadian M.D. graduates, but it has become similar to Canadian graduates in recent years. Based on past behaviour, we expect that about 78% of these residents will still be practising in Canada 5 years after they leave training. This figure compares to 89% of those who earned the M.D. degree in Canada.

Since 1990 there has been a steady increase in the number of Visa trainees studying in Canada. In the past, we have found that 18% of this group (about 65 a year) will be practising medicine in Canada. A higher proportion of the Visa trainees have trained in specialty medicine when compared to the graduates of Canadian medical schools and Canadian citizen IMG trainees.

Table 1
First Year Trainees in Canadian Training Programs
Graduates of Canadian Medical Schools vs. International Medical Graduates (CC/PR*)

Training Year	M.D. - Canada		M.D. - Outside Canada (CC/PR*)		Total	
	Count	Row %	Count	Row %	Count	Row %
1990	1666	93.8%	110	6.2%	1776	100.0%
1991	1636	95.0%	86	5.0%	1722	100.0%
1992	1689	95.1%	87	4.9%	1776	100.0%
1993	1615	95.7%	72	4.3%	1687	100.0%
1994	1599	96.5%	58	3.5%	1657	100.0%
1995	1670	96.3%	64	3.7%	1734	100.0%
1996	1611	96.2%	63	3.8%	1674	100.0%
1997	1520	95.2%	76	4.8%	1596	100.0%
1998	1531	95.2%	77	4.8%	1608	100.0%
1999	1515	95.3%	74	4.7%	1589	100.0%
2000	1477	95.0%	77	5.0%	1554	100.0%
2001	1443	91.3%	138	8.7%	1581	100.0%
2002	1453	88.1%	197	11.9%	1650	100.0%

* CC/PR: Canadian Citizens and Permanent Residents

Table 2
First Year Trainees (Canadian Citizens/Permanent Residents)
Registered for Post-M.D. Training, Academic Year 2002-03
FIELD OF POST-M.D. TRAINING

BY
LOCATION OF FACULTY OF MEDICINE WHICH AWARDED THE M.D. DEGREE

Field of Post-M.D. Training		Canada		Outside Canada		Total		
		Count	Row %	Count	Row %	Count	Row %	
NON SPECIALIZED TRAINING	Non-Specialized Upgrading			3	100.0%	3	100.0%	
	NON SPEC. TRAINING SUBTOTAL			3	100.0%	3	100.0%	
FAMILY MEDICINE	Family Medicine	528	82.6%	111	17.4%	639	100.0%	
	FAMILY MEDICINE SUBTOTAL	528	82.6%	111	17.4%	639	100.0%	
MEDICAL SPECIALTIES	Anesthesia	76	95.0%	4	5.0%	80	100.0%	
	Community Medicine	4	66.7%	2	33.3%	6	100.0%	
	Dermatology	7	100.0%			7	100.0%	
	Diagnostic Radiology	57	96.6%	2	3.4%	59	100.0%	
	Emergency Medicine (RCPSC)	23	100.0%			23	100.0%	
	Internal Medicine	228	93.1%	17	6.9%	245	100.0%	
	Medical Genetics	5	100.0%			5	100.0%	
	Neurology	16	100.0%			16	100.0%	
	Neurology-Pediatric	1	100.0%			1	100.0%	
	Nuclear Medicine	4	100.0%			4	100.0%	
	Occupational Medicine	1	33.3%	2	66.7%	3	100.0%	
	Pediatrics	82	91.1%	8	8.9%	90	100.0%	
	Physical Medicine & Rehab.	13	92.9%	1	7.1%	14	100.0%	
	Psychiatry	83	84.7%	15	15.3%	98	100.0%	
	Radiation Oncology	18	85.7%	3	14.3%	21	100.0%	
		MEDICAL SPEC. SUBTOTAL	618	92.0%	54	8.0%	672	100.0%
	LAB MEDICINE SPECIALTIES	Laboratory Med. (Undifferentiated)	3	100.0%			3	100.0%
Anatomical Pathology		13	81.3%	3	18.8%	16	100.0%	
General Pathology		6	85.7%	1	14.3%	7	100.0%	
Medical Biochemistry		2	100.0%			2	100.0%	
Medical Microbiology		5	100.0%			5	100.0%	
Neuropathology		1	100.0%			1	100.0%	
		LAB. MED. SPEC. SUBTOTAL	30	88.2%	4	11.8%	34	100.0%
SURGICAL SPECIALTIES	Cardiac Surgery	5	83.3%	1	16.7%	6	100.0%	
	General Surgery	99	96.1%	4	3.9%	103	100.0%	
	Neurosurgery	14	87.5%	2	12.5%	16	100.0%	
	Obstetrics/Gynecology	51	78.5%	14	21.5%	65	100.0%	
	Ophthalmology	19	90.5%	2	9.5%	21	100.0%	
	Otolaryngology	15	100.0%			15	100.0%	
	Orthopedic Surgery	39	95.1%	2	4.9%	41	100.0%	
	Plastic Surgery	11	100.0%			11	100.0%	
	Thoracic Surgery	1	100.0%			1	100.0%	
	Urology	17	100.0%			17	100.0%	
		SURGICAL SPEC. SUBTOTAL	271	91.6%	25	8.4%	296	100.0%
Total		1447	88.0%	197	12.0%	1644	100.0%	

FINAL FIELD OF TRAINING 1990 - 2002

*Comparison of the final field of training of

: Graduates of Canadian medical schools

: International Medical Graduates who were Canadian citizens*

: International Medical Graduates (visa trainees)

Table 3A

Graduates of Canadian Medical Schools

Year	Family Medicine	All Specialties	Medical Specialties	Lab Medicine	Surgical Specialties	Total Number of Physicians
1990	53.0%	47.0%	30.0%	2.5%	14.6%	1742
1991	54.8%	45.2%	29.0%	2.2%	14.0%	1745
1992	56.9%	43.1%	27.7%	2.1%	13.3%	1659
1993	53.5%	46.5%	29.3%	2.2%	15.0%	1625
1994	48.4%	51.6%	32.9%	1.7%	17.0%	1346
1995	47.8%	52.2%	34.4%	1.8%	16.0%	1377
1996	47.9%	52.1%	32.7%	1.7%	17.7%	1454
1997	45.1%	54.9%	36.1%	2.1%	16.7%	1523
1998	44.2%	55.8%	37.1%	2.0%	16.7%	1554
1999	41.5%	58.5%	39.3%	2.2%	17.0%	1581
2000	39.9%	60.1%	40.3%	2.6%	17.2%	1594
2001	40.0%	60.0%	40.6%	2.2%	17.2%	1524
2002	39.5%	60.5%	39.8%	1.6%	19.1%	1441

Table 3B

*International Medical Graduates Who Were Canadian Citizens**

Year	Family Medicine	All Specialties	Medical Specialties	Lab Medicine	Surgical Specialties	Total Number of Physicians
1990	21.9%	78.1%	55.3%	6.3%	16.5%	255
1991	29.9%	70.1%	54.6%	4.4%	11.1%	271
1992	25.0%	75.0%	55.9%	7.0%	12.1%	256
1993	33.0%	67.0%	48.2%	8.0%	10.8%	251
1994	20.5%	79.5%	50.4%	9.3%	19.8%	258
1995	13.1%	86.9%	60.5%	8.8%	17.6%	296
1996	19.6%	80.4%	56.9%	10.2%	13.3%	255
1997	14.5%	85.5%	58.3%	10.3%	16.9%	242
1998	24.1%	75.9%	55.6%	6.3%	14.0%	207
1999	29.5%	70.5%	51.9%	5.6%	13.0%	162
2000	33.0%	72.5%	50.6%	2.2%	19.7%	178
2001	31.9%	68.1%	54.7%	2.8%	10.6%	141
2002	33.1%	66.9%	53.6%	2.0%	11.3%	151

Table 3C

International Medical Graduates (visa trainees)

Year	Family Medicine	All Specialties	Medical Specialties	Lab Medicine	Surgical Specialties	Total Number of Physicians
1990	.7%	99.3%	57.2%	6.4%	35.7%	339
1991	1.0%	99.0%	57.6%	4.0%	37.4%	302
1992	1.7%	98.3%	61.4%	3.7%	33.2%	355
1993	.4%	99.6%	65.9%	.9%	32.8%	323
1994	.5%	99.5%	61.4%	2.4%	35.7%	378
1995	.3%	99.7%	59.7%	2.8%	37.2%	320
1996	.6%	99.4%	62.8%	2.5%	34.1%	361
1997	.3%	99.7%	62.6%	1.1%	36.0%	356
1998	.3%	99.7%	59.5%	1.8%	38.4%	388
1999	1.5%	98.5%	61.4%	1.4%	35.7%	415
2000	2.4%	97.6%	60.4%	2.8%	34.4%	422
2001	1.6%	98.4%	64.2%	1.2%	33.0%	495
2002	2.2%	97.8%	62.5%	1.3%	34.0%	544

* Proportion of the exit group in each field

⊕ Canadian citizens or permanent residents of Canada

Table 4
Physicians Exiting Post-M.D. Training (2002)
Practice Entry Cohort (Canadian Grads Only) and International Medical Graduates (CC/PR)
FIELD OF POST-M.D. TRAINING
BY
LOCATION OF FACULTY OF MEDICINE WHICH AWARDED THE M.D. DEGREE

Field of Post-M.D. Training		Canada		Outside Canada		Total	
		Count	Row %	Count	Row %	Count	Row %
FAMILY MEDICINE	Family Medicine	467	90.9%	47	9.1%	514	100.0%
	Emergency Medicine (CFPC)	75	98.7%	1	1.3%	76	100.0%
	Care of the Elderly (CFPC)	9	81.8%	2	18.2%	11	100.0%
	Other Fam. Med. Training	18	100.0%			18	100.0%
	FAMILY MEDICINE SUBTOTAL	569	91.9%	50	8.1%	619	100.0%
TRAINING FOLLOWING F.M. OR SPEC.	Palliative Medicine	3	60.0%	2	40.0%	5	100.0%
	TRAINING FOLLOWING F.M. OR SPEC. SUBTOTAL	3	60.0%	2	40.0%	5	100.0%
MEDICAL SPECIALTIES	Anesthesia	69	85.2%	12	14.8%	81	100.0%
	Critical Care (Anes.)	4	100.0%			4	100.0%
	Community Medicine	5	83.3%	1	16.7%	6	100.0%
	Dermatology	10	100.0%			10	100.0%
	Diagnostic Radiology	55	91.7%	5	8.3%	60	100.0%
	Pediatric Diagnostic Radiology			2	100.0%	2	100.0%
	Emergency Medicine (RCPSC)	18	100.0%			18	100.0%
	Critical Care (Emergency Med.)	3	100.0%			3	100.0%
	Internal Medicine	33	80.5%	8	19.5%	41	100.0%
	Cardiology (Int.Med.)	42	97.7%	1	2.3%	43	100.0%
	Clin. Imm./Allergy (Int.Med.)	5	100.0%			5	100.0%
	Clin. Pharmacology (Int.Med.)			2	100.0%	2	100.0%
	Critical Care (Int.Med.)	15	100.0%			15	100.0%
	Endocrinology/Met. (Int.Med.)	11	78.6%	3	21.4%	14	100.0%
	Gastroenterology (Int.Med.)	13	86.7%	2	13.3%	15	100.0%
	Geriatric Medicine (Int.Med.)	7	100.0%			7	100.0%
	Hematology (Int.Med.)	9	100.0%			9	100.0%
	Infectious Diseases (Int.Med.)	5	100.0%			5	100.0%
	Medical Oncology (Int.Med.)	19	86.4%	3	13.6%	22	100.0%
	Nephrology (Int.Med.)	24	85.7%	4	14.3%	28	100.0%
	Respirology (Int.Med.)	14	77.8%	4	22.2%	18	100.0%
	Rheumatology (Int.Med.)	5	71.4%	2	28.6%	7	100.0%
	Medical Genetics	2	100.0%			2	100.0%
	Neurology	16	84.2%	3	15.8%	19	100.0%
	Neurology-Pediatric	1	50.0%	1	50.0%	2	100.0%
	Nuclear Medicine	2	100.0%			2	100.0%
	Occupational Medicine	1	100.0%			1	100.0%
	Pediatrics	38	92.7%	3	7.3%	41	100.0%
	Cardiology (Ped.)	1	100.0%			1	100.0%
	Clin. Imm./Allergy (Ped.)	4	100.0%			4	100.0%
	Critical Care (Ped.)	2	100.0%			2	100.0%
	Endocrinology/Met. (Ped.)	1	100.0%			1	100.0%
	Gastroenterology (Ped.)	6	85.7%	1	14.3%	7	100.0%
Hematology (Ped.)	2	50.0%	2	50.0%	4	100.0%	
Neonatal-Perinatal Med. (Ped.)	5	55.6%	4	44.4%	9	100.0%	

(continued)

Table 4
Physicians Exiting Post-M.D. Training (2002)
Practice Entry Cohort (Canadian Grads Only) and International Medical Graduates (CC/PR)
FIELD OF POST-M.D. TRAINING
BY
LOCATION OF FACULTY OF MEDICINE WHICH AWARDED THE M.D. DEGREE

Field of Post-M.D. Training		Canada		Outside Canada		Total		
		Count	Row %	Count	Row %	Count	Row %	
MEDICAL SPECIALTIES	Nephrology (Ped.)	4	100.0%			4	100.0%	
	Respirology (Ped.)	4	100.0%			4	100.0%	
	Rheumatology (Ped.)	1	100.0%			1	100.0%	
	Physical Medicine & Rehab.	7	77.8%	2	22.2%	9	100.0%	
	Psychiatry	93	86.9%	14	13.1%	107	100.0%	
	Clinical Pharmacology (Psych.)	1	100.0%			1	100.0%	
	Radiation Oncology	13	100.0%			13	100.0%	
	MEDICAL SPEC. SUBTOTAL	570	87.8%	79	12.2%	649	100.0%	
LAB MEDICINE SPECIALTIES	Anatomical Pathology	13	81.3%	3	18.8%	16	100.0%	
	General Pathology	3	100.0%			3	100.0%	
	Medical Biochemistry	2	100.0%			2	100.0%	
	Medical Microbiology	4	100.0%			4	100.0%	
	Neuropathology	1	100.0%			1	100.0%	
		LAB. MED. SPEC. SUBTOTAL	23	88.5%	3	11.5%	26	100.0%
SURGICAL SPECIALTIES	Cardiac Surgery	11	84.6%	2	15.4%	13	100.0%	
	General Surgery	52	91.2%	5	8.8%	57	100.0%	
	Colorectal Surgery	1	100.0%			1	100.0%	
	Critical Care (Surgery)	1	50.0%	1	50.0%	2	100.0%	
	Gen. Surgical Oncology	1	100.0%			1	100.0%	
	Pediatric General Surgery	3	100.0%			3	100.0%	
	Vascular Surgery	4	66.7%	2	33.3%	6	100.0%	
	Neurosurgery	14	93.3%	1	6.7%	15	100.0%	
	Obstetrics/Gynecology	46	93.9%	3	6.1%	49	100.0%	
	Gyn. Oncology	1	100.0%			1	100.0%	
	Gyn.Rep.Endocrin./Infertility	2	100.0%			2	100.0%	
	Maternal-Fetal Med. (Ob.)	4	100.0%			4	100.0%	
	Ophthalmology	16	100.0%			16	100.0%	
	Otolaryngology	26	96.3%	1	3.7%	27	100.0%	
	Orthopedic Surgery	51	96.2%	2	3.8%	53	100.0%	
	Plastic Surgery	19	100.0%			19	100.0%	
	Thoracic Surgery	3	100.0%			3	100.0%	
	Urology	21	100.0%			21	100.0%	
		SURGICAL SPEC. SUBTOTAL	276	94.2%	17	5.8%	293	100.0%
	Total		1441	90.5%	151	9.5%	1592	100.0%

Table 5
International Medical Graduates (Visa Trainees) Exiting Training, 1990 - 1996
PRACTICE LOCATION FIVE YEARS AFTER EXITING TRAINING
BY
YEAR OF EXIT FROM POST-M.D. TRAINING

Practice Location Five Years After Exiting Training		Year of Exit from Post-M.D. Training														Total	
		1990		1991		1992		1993		1994		1995		1996		Count	Col %
		Count	Col %	Count	Col %	Count	Col %	Count	Col %	Count	Col %	Count	Col %	Count	Col %		
CANADA	Atlantic	11	3.2%	7	2.3%	10	2.8%	8	2.5%	3	.8%	1	.3%	3	.8%	43	1.8%
	Quebec	9	2.7%			6	1.7%	8	2.5%	5	1.3%	11	3.4%	11	3.0%	50	2.1%
	Ontario	34	10.0%	34	11.3%	32	9.0%	23	7.1%	28	7.4%	25	7.8%	36	10.0%	212	8.9%
	Western	22	6.5%	22	7.3%	24	6.8%	19	5.9%	22	5.8%	17	5.3%	13	3.6%	139	5.8%
	Canada Subtotal	76	22.4%	63	20.9%	72	20.3%	58	18.0%	58	15.3%	54	16.9%	63	17.5%	444	18.7%
NOT LOCATED IN CANADA	Not Located in Canada	263	77.6%	239	79.1%	263	79.7%	265	82.0%	320	84.7%	266	83.1%	298	82.5%	1934	81.3%
Total		339	100.0%	302	100.0%	355	100.0%	323	100.0%	378	100.0%	320	100.0%	361	100.0%	2378	100.0%

Figure 1
Comparison of the Final Training Field of Graduates of Canadian Medical Schools and International Medical Graduates Exiting from Canadian Training Programs 1990 - 2002

Family Medicine %

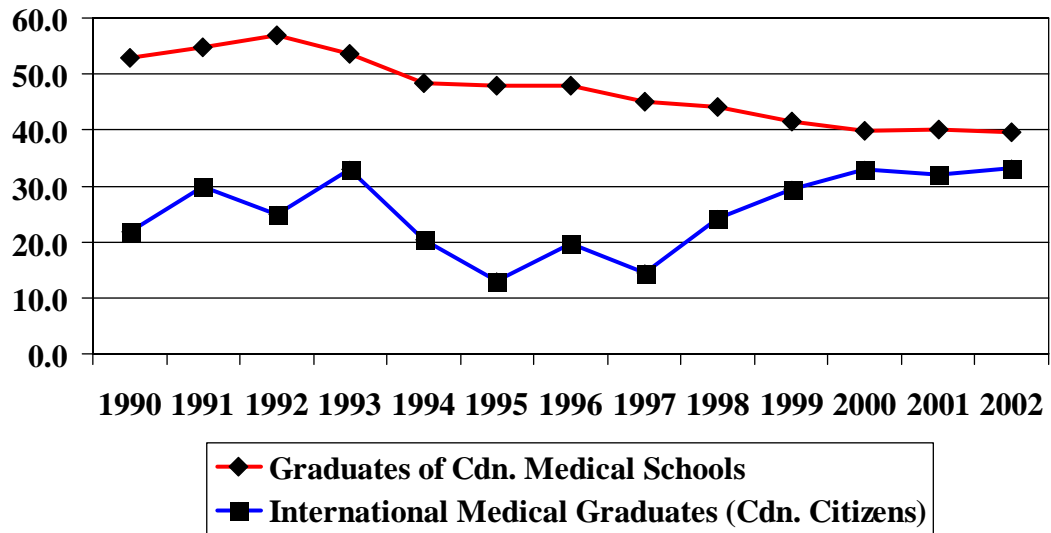


Figure 2
Comparison of the Final Training Field of Graduates of Canadian Medical Schools and International Medical Graduates Exiting from Canadian Training Programs 1990 - 2002

Medical Specialties %

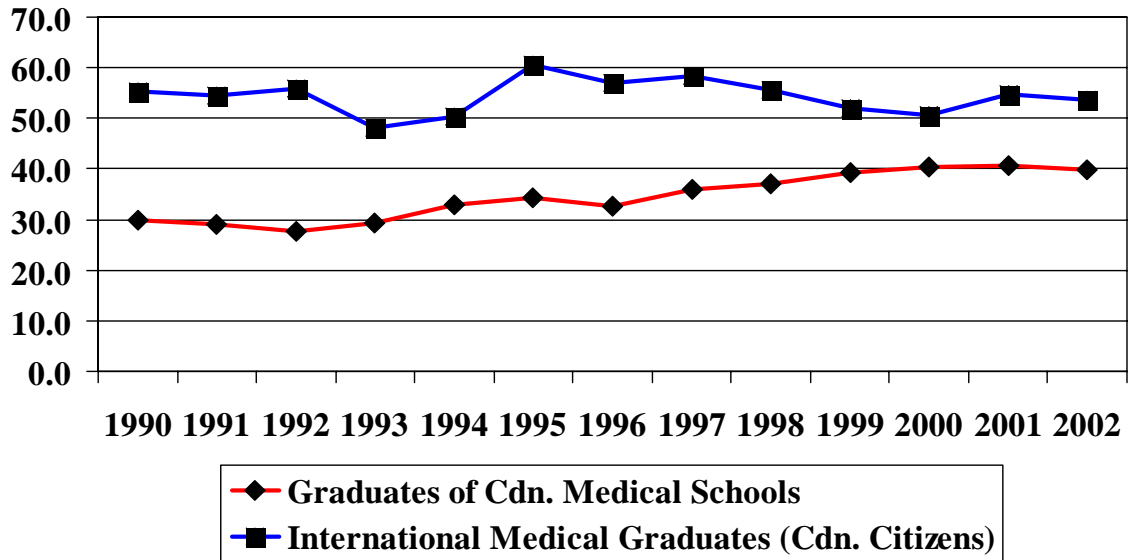


Figure 3
Number of Visa Trainees in Post-M.D. Training 1990 - 2002

