

Resident Numbers and Graduation Rates From Residencies 2006

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Introduction: This the twelfth report in a series started in 1995. The series was prompted by the rapid decline in recruitment in the mid 1990's, a consequence of anxiety about possible over-recruitment into the specialty. This year the major changes are: more residents in the PGY1 year; more women, but fewer men, in the CA1 year; and the largest CA2 group for twelve years. In addition the totals for those graduating have been updated.

Anesthesiology Residents Entering Training [Table 1]: This year there were 1,576 residents in the critical CA-1 year, almost unchanged from 1,572 in 2005. By contrast the number of residents in the PGY1 year increased to 644, a significant increase from 514 in 2005 and 431 in 2004. It exceeds the average for the last fifteen years by 130. It is also the largest PGY1 group since 1972, the year before the introduction of the mandatory PGY1 year, when there were 893.

The Number of Anesthesiology Residents Graduating [Table 1 and Figure 1]: This year the data has been updated to represent more accurately the number graduating. Previous reports utilized the total up to the end of August, a value that omitted any additional people who recorded their graduation later in the year. For this report, with the inevitable exception of this year, the values have been updated to reflect the true total of those graduating each year.

Last year's report indicated that graduation rates for 2004 and 2005 were 1,393; and 1,390. This year's update changes these values to: 1398; and 1525. This indicates that last year a significant number of graduates submitted their paperwork after August. Therefore, little value can be placed on the value obtained each August for the current year.

The number of residents who have so far reported graduating this year (1,395) is in line with the number collected at the same time last year. However, as there were 1513 in the CA3 group one year ago, the final number of graduates is likely to be considerably higher.

The Number of Anesthesiology Residents in Each Year [Table 1 and Figure 1]: This year's CA3 group (1,502) contains 45 fewer residents than the CA2 group one year earlier; but this year's CA2 group (1,602) contains 43 more residents than the CA1 group one year earlier. The likely explanation is that about 45 residents were held back by factors such as illness, pregnancy, or a requirement for additional training. Whatever may have been the cause, the effect is that the CA2 group is the largest for any year since 1994.

Attrition From Residencies [Tables 2 & 3, and Figures 2 & 3]: The size of the CA-1 group each year is compared to the size of the same cohort at graduation. This comparison provides a rough guide to attrition. For a given year, e.g., 2000, one column shows the size of the CA-1 group for that year and another, beside it, shows the size of that cohort graduating, e.g., in 2003.

In the early years, the number graduating three years later was close to the number in the CA-1 group. The striking attrition of the mid 1990s has been followed by a gradual recovery. There is considerable variability in the last year or two, e.g., more people apparently graduated from the 2002 cohort than entered it. However, when the totals are averaged over the last few years, the

overall attrition rate appears to be very small with no significant difference between the rates of attrition for men and women (Figure 3).

Gender [Table 3, and Figures 3 and 4]: the ABA now has seven years' data about the gender distribution in anesthesiology residencies. The increase in the number of women observed in the last two reports is continuing: the PGY-1 year is now 38 percent women and the CA-1 year is 34 percent women. Despite these increases, the number of women still does not approach the proportion found in the medical school population

Anesthesiology's Recruitment History: Figure 1 neatly illustrates several aspects of anesthesiology's history. In general the size of a cohort continues almost unchanged from year to year. Thus the 1989 CA1 group (1,592) became the 1990 CA2 group (1,593), the 1991 CA3 group (1,565) and the 1992 graduates (1,552). Exceptions are usually associated with major events.

The huge drop in the size of the PGY1 group in 1973 occurred when Anesthesiology introduced two clinical anesthesiology years preceded by a PGY1 year. Surprisingly, when this occurred, the number seeking additional training hardly changed: the size of the optional CA2 (PG3) year in 1972 is almost exactly the same size as the optional CA3 (PG4) year in 1973. Indeed, one appears to be a continuation of the other. Although the number seeking CA3 training subsequently fell slightly, it began to rise rapidly with the approach of the mandatory CA3 year. The total graduating is only recorded back to 1985, but the remarkable dip in 1998 marks this introduction of the CA3 year and the associated delay in graduating for one cohort

The decline in the mid 1990's is striking. The attrition during this period is too. It is clearly visible as the nadirs for the CA1, CA2, and CA3 years are progressively lower. The attrition continued in the late 1990's and the early 2000's and is visible as the wide separation of the lines for the CA1, CA2, and CA3 groups.

Discussion: This year the number of residency positions filled in March via the National Resident Matching Program rose to 1,287, the largest number ever recorded. Only 24 positions were unfilled which is the smallest number ever recorded.

The decreased recruitment via the Match for next year's CA1 group (down 61 to 759) is accompanied by an even greater increase in the number recruited in the same Match for this year's PG1 group (up 89 to 552). Thus, although recruitment via the Match for the CA1 group appears to down, recruitment has actually improved and the enlarged PG1 group should become the CA1 group one year later.

During the months after the Match this March, an additional 105 residents (16%) were recruited into the PG1 group (total 644). In the 2005 Match, 791 residents were recruited for the 2006 CA1 year. An additional 785 residents (50%) were recruited to make this year's total 1,576. These figures for post-Match recruitment are almost certainly an underestimate, however, because losses due to attrition will have necessitated additional recruitment. This means that more than half of the recruitment into the CA1 year occurs after the Match, a proportion that has been roughly constant since 2002.

Attrition is a rough of measure of satisfaction: with career prospects; with quality of the training process; and with suitability of the recruits themselves. Lower rates of attrition imply higher levels of satisfaction. In the mid 1990's dissatisfaction was common and attrition was high. In recent years attrition appears to have returned to levels approaching those experienced in the late 1980's. In any one cohort, however, the actual numerical values must be viewed with caution because the size of any one graduating group is affected by various factors, e.g., delayed completion of paperwork, ill health, childbirth, relocation and being held back for additional training.

Conclusion: There is continuing growth in recruitment into the PG1 year both via the match and by further recruitment after the match. More women are joining the specialty and attrition is close to the historically low values experienced in the late 1980's.

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Web Site: To see previous articles, additional data about the workforce and the results of the National Resident Matching Program, readers are invited to visit <www.grogono.com/nrmp>.

YEAR	PG1	CA1	CA2	CA3	Grad	Res All
59						1212
60						1285
61						1202
62						1199
63						1171
64						1270
65						1248
66						1234
67						1260
68	694	588	186	25		1493
69	735	663	230	15		1643
70	677	672	327	28		1704
71	859	716	378	N/A		1953
72	893	772	388	N/A		2053
73	119	886	821	391		2217
74	172	847	860	379		2258
75	285	826	808	388		2307
76	270	866	839	399		2374
77	312	883	883	372		2450
78	390	829	848	354		2421
79	404	849	847	303		2403
80	479	893	858	292		2522
81	614	1202	921	259		2996
82	511	1287	1215	276		3289
83	539	1431	1300	357		3627
84	520	1462	1455	397		3834
85	472	1514	1450	495	1201	3931
86	367	1484	1496	651	1243	3998
87	404	1418	1454	824	1198	4100
88	322	1511	1449	1281	824	4563
89	293	1592	1541	1450	1273	4876
90	479	1656	1593	1518	1433	5246
91	387	1801	1753	1565	1469	5506
92	360	1904	1781	1720	1552	5765
93	380	1853	1864	1675	1692	5772
94	281	1873	1843	1871	1743	5868
95	207	1436	1607	1701	1814	4951
96	580	1073	1259	1454	1775	4366
97	507	1132	972	1107	1487	3718
98	507	1225	1001	939	1173	3672
99	463	1387	1194	919	947	3963
00	446	1453	1339	1105	961	4343
01	543	1466	1374	1253	1160	4636
02	638	1471	1420	1357	1272	4886
03	510	1496	1473	1399	1327	4878
04	431	1439	1608	1511	1398	4989
05	514	1572	1557	1513	1525	5156
06	644	1576	1615	1502	1395	5337

Table 1. The number of residents in each year and graduating from 1959 to 2006.

Until the introduction of a mandatory CA3 year in 1987, the CA3 year was optional. When graduation rates were first recorded, they initially bore no relationship to the size of the previous CA3 year. From 1988 onwards, these two values are closely related.

Key:

PG1. Postgraduate Year 1
 CA1. Clinical Anesthesia Year 1
 CA2. Clinical Anesthesia Year 2
 CA3. Clinical Anesthesia Year 3
 Grad. Number of Graduates
 Res All. Total Residents

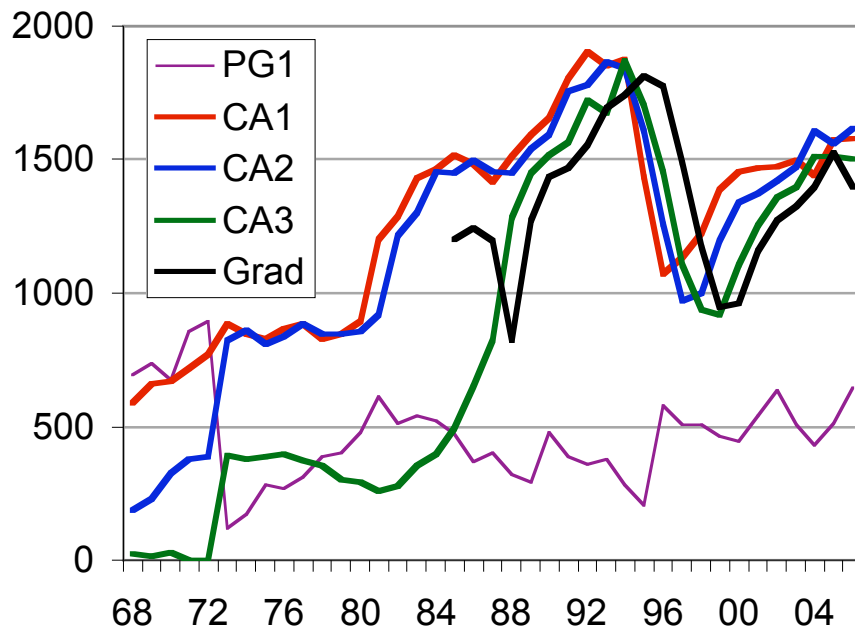


Figure 1. Numbers of residents in each year and Graduating from 1968 to 2006.

	CA1	Grad
86	1484	1273
87	1418	1433
88	1511	1469
89	1592	1552
90	1656	1692
91	1801	1743
92	1904	1814
93	1853	1775
94	1873	1487
95	1436	1173
96	1073	947
97	1132	961
98	1225	1160
99	1387	1272
00	1453	1327
01	1466	1398
02	1471	1525
03	1496	1395

Table 2: The number of residents in the CA1 year compared to the number graduating three years later – a rough measure of attrition.

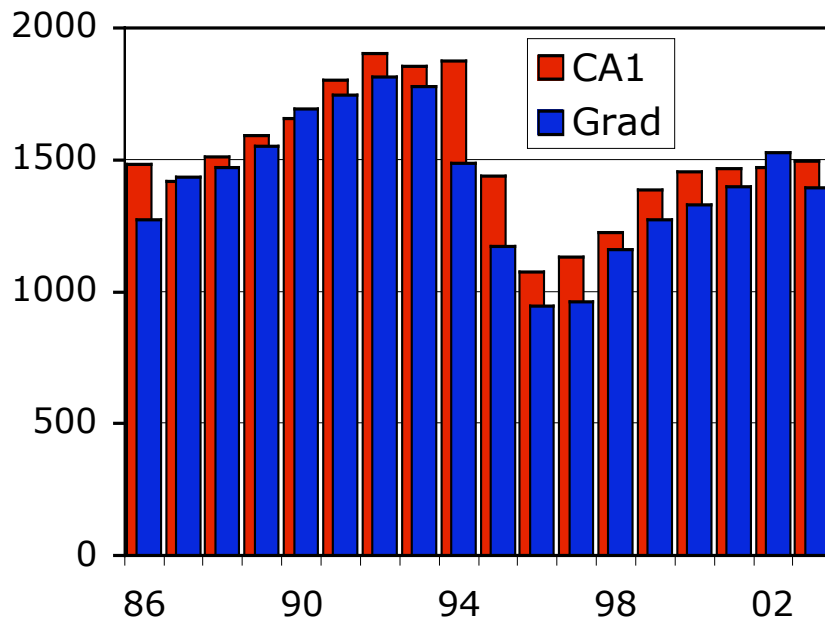


Figure 2. Graph showing the size of a CA1 group compared to the size of the same group three years later.

Year	PG1			CA1			CA2			CA3			Grad		
	M	F	All	M	F	All	M	F	All	M	F	All	M	F	All
00	331	105	436	1043	400	1443	939	381	1320	798	293	1091	711	250	961
01	400	141	541	1071	394	1465	991	378	1369	893	351	1244	829	331	1160
02	464	174	638	1096	375	1471	1048	372	1420	972	385	1357	924	348	1272
03	360	150	510	1086	410	1496	1110	363	1473	1023	376	1399	961	366	1327
04	288	143	431	985	454	1439	1177	431	1608	1136	375	1511	1027	371	1398
05	330	184	514	1071	501	1572	1073	484	1557	1105	408	1513	1142	383	1525
06	398	246	644	1039	537	1576	1090	525	1615	1036	466	1502	1038	357	1395

Table 3. Male and female residents in each year and graduating from 2000 to 20006.

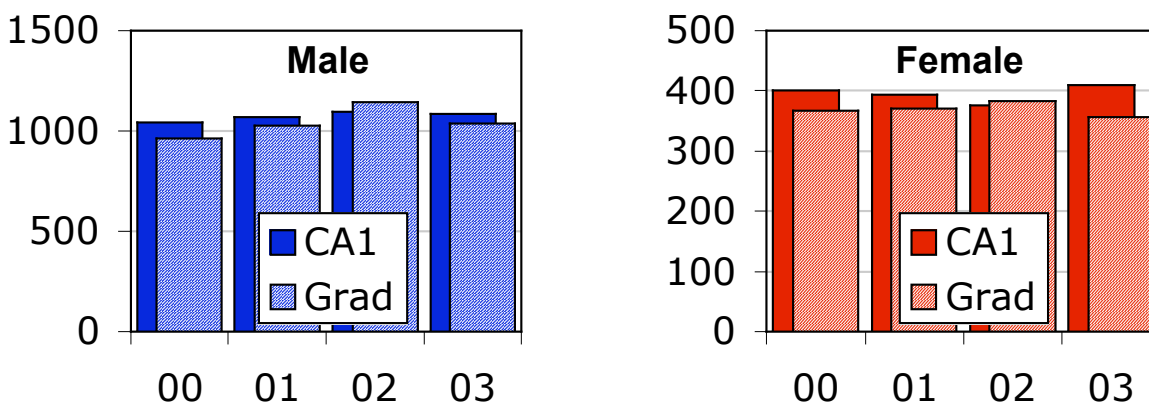


Figure 3. Graphs showing the relative changes in the size of the male and female groups in the CA1 year compared to the same groups three years later.

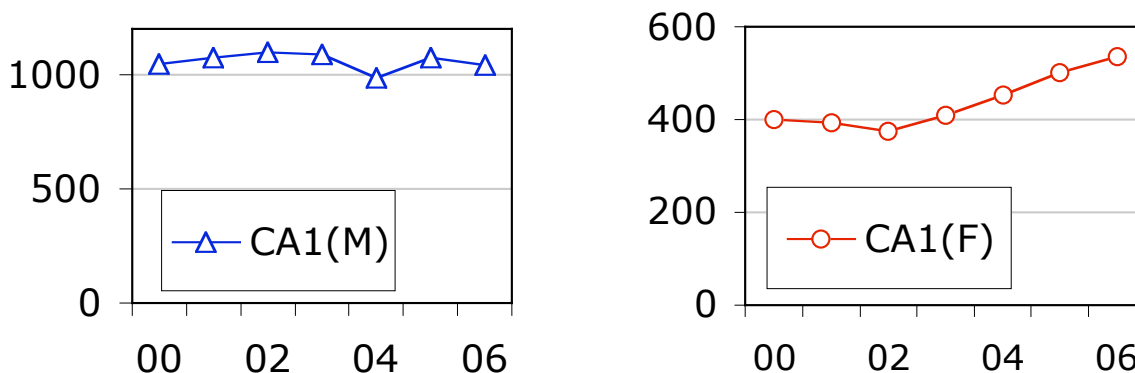


Figure 4. Graphs showing the relative change in the number of male and female residents in the CA1 year from 2000 to 2006.