

The chief medical residency in Canada: comparison of opinions between physicians-in-chief and chief medical residents

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We conducted a survey of physicians-in-chief (PCs) and chief medical residents (CMRs) in training programs throughout Canada to determine their attitudes toward the need for and role of CMRs in Canada and to rate the importance of CMR duties and attributes. Forty-three hospitals with 5 to 126 house staff in all eight provinces with medical schools were surveyed; 36 PCs (84%) and 29 CMRs (67%) returned a completed questionnaire. Compared with the CMRs the PCs preferred more prior training ($p < 0.03$), estimated as significantly less the time spent by CMRs in required duties ($p < 0.05$) and rated as more important the responsibilities of faculty-house staff liaison, house staff leader, house staff role model and teaching house staff ($p < 0.05$) and the attributes of clinical judgement, medical knowledge, clinician model and research interests ($p < 0.03$). All of the PCs and 97% of the CMRs rated the position as somewhat to very necessary; 83% of the PCs and 66% of the CMRs would not alter the present CMR roles. A total of 92% of the PCs felt that the position was very or somewhat advantageous with respect to a future private practice, compared with 67% of the CMRs ($p < 0.02$). Increased administrative

and committee duties, decreased teaching and future reductions in house staff were identified as major but reversible threats to the unique quality of the CMR position. We conclude that the CMR has a necessary, important and highly regarded role in Canadian university hospitals that could possibly be improved by regular review by the PC and CMR at each hospital to avoid the identified problems.

On a pressenti les médecins-chefs (MC) et les résidents-chefs (RC) de programmes de formation post-doctorale répartis à travers le Canada afin de savoir ce qu'ils pensent de l'importance et du rôle du RC et le poids qu'ils attachent à certaines de ses attributions et qualités. L'enquête a porté sur 43 hôpitaux comptant de 5 à 126 internes et résidents dans les huit provinces possédant des écoles de médecine. Ont répondu 36 MC (84%) et 29 RC (67%). Par rapport aux seconds les premiers pensent plus souvent que le RC devrait avoir reçu une formation plus poussée ($p < 0,03$), croient moins long le temps qu'il doit consacrer à ses tâches ($p < 0,05$) et estiment plus importantes ses attributions comme agent de liaison entre patrons et internes ou résidents, comme chef des internes et résidents, comme modèle à donner à ceux-ci et comme chargé de les enseigner ($p < 0,05$) et, parmi ses qualités, celles qui concernent son jugement clinique, ses connaissances médicales, sa capacité de servir de modèle de ce que devrait

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être un clinicien et l'intérêt qu'il porte à la recherche ($p < 0,03$). Pour tous les MC et 97% des RC le poste de RC est au moins plutôt nécessaire; ses attributions actuelles font le bonheur de 83% des MC et de 66% des RC. Parmi les MC 92% croient que le poste occupé par le RC lui sera au moins quelque peu utile quand il s'établira en clientèle, ce qui n'est le cas que de 67% des RC eux-mêmes ($p < 0,02$). Parmi les facteurs importants mais réversibles qui menacent le caractère à nul autre pareil du poste de RC on fait ressortir l'augmentation de ses tâches administratives et du travail en comités, la diminution de ses tâches d'enseignement, et l'abaissement progressif du nombre d'internes et résidents. On conclut que le RC joue un rôle important, voire indispensable, et de haut prestige dans les hôpitaux universitaires canadiens, un rôle qu'on peut même faire grandir encore dans chaque hôpital si les MC et RC s'y attachent à passer régulièrement en revue les problèmes qui se présentent.

The chief residency has evolved into an established, prominent role in teaching hospital departments since its beginning as part of the surgical training program at Johns Hopkins Hospital in 1889.¹⁻⁴ In most internal medicine programs the position of chief medical resident (CMR) is presumed to demand greater medical knowledge, refined clinical judgement, adept administrative skills and superior teaching ability. A balance between these traditional, essential attributes and the ability to promote cooperation between faculty and house staff is fundamental to success in this position. The position is also presumed to facilitate future career advancement. However, an early US study of the CMR position produced startling results that appeared to contradict these presumptions:⁵ 33% of CMRs would not have accepted the position for a full year, and the author suggested that the position may have become obsolete. This surprising level of disenchantment was largely attributed to increased administrative duties and decreased patient care and teaching duties.^{2,5} A gradual metamorphosis from the traditional CMR role of physician-teacher to administrator-teacher has occurred in the United States.²⁻⁴

Other investigators have not attempted to identify the important CMR responsibilities or attributes that physicians-in-chief (PCs) look for in CMRs and that CMRs hope to fulfil. We therefore conducted a survey of the attitudes toward the CMR position in teaching hospitals throughout Canada to identify the important functions of this position, as viewed by PCs and CMRs, any differences between PCs and CMRs in their perceptions of the responsibilities or personal qualities of a good CMR, any differences between Canadian and US perceptions of the CMR, and any changes to the position that would be beneficial.

Methods

Questionnaires adapted from a US survey⁶ were mailed separately with stamped return envelopes to the CMRs and PCs at university-affiliated hospitals with training programs in internal medicine approved by the Royal College of Physicians and Surgeons of Canada.⁷ Clinics, rehabilitation centres, specialized institutes (e.g., for the treatment of arthritis, cancer or alcoholism) and military hospitals were excluded, as were hospitals with no medical students listed under their *Canadian Hospital Directory* citation.⁸ The questionnaires for CMRs and PCs were similarly worded and, except for university affiliation, were completed anonymously. Questionnaires translated into French were sent to hospitals in Quebec. The forms were mailed in April 1986, when over 75% of the academic year was completed. This was felt to be the best time to sample individual impressions and allow for possible follow-up. A repeat mailing to all nonresponders was done after 5 weeks.

Respondents were asked to rate 10 CMR functions and 13 desirable CMR attributes on a scale of 0 (not important) to 5 (very important). Opinions and comments about house-staff number, time requirements, possible changes to the CMR position and whether the position enhanced future career opportunities were also sought. The PCs were asked to state the number of CMRs in the previous 10 years and to identify their eventual career placement, by type of practice.

The results from CMRs and PCs were separated. The numerical rating results were analysed by means of the Wilcoxon rank sum test (two-tailed) for two groups. In addition, mean ratings for each attribute and function were determined and ranked to assess the degree of importance within groups. The results for all the other questions were analysed by means of chi-square tests. P values of less than 0.05 were considered statistically significant.

Results

Forty-eight hospitals met the inclusion criteria and were mailed questionnaires; five did not have CMR positions. A total of 36 (84%) of the PCs and 29 (67%) of the CMRs at the remaining 43 hospitals completed and returned the forms. Questionnaires were received from hospitals with 5 to 126 house staff and from all eight provinces with medical schools.

The two groups differed significantly in the level of prior postgraduate medical training they considered desirable: 89% of the PCs considered 3 or more years as minimal, compared with 59% of the CMRs ($\chi^2 = 4.94$, 1 degree of freedom [df], $p < 0.03$). There was no significant difference between the level desired by the PCs and the actual prior medical training of their CMRs.

The PCs' estimates of the time spent by the CMR in required duties exclusive of research or patient care (e.g., house staff administration, teaching and hospital committee attendance) differed significantly from those of the CMRs ($p < 0.05$) (Table I).

The mean ratings for the 10 CMR responsibilities are shown in Table II. Both groups ranked faculty-house staff liaison, house staff leader, house staff role model and teaching house staff as the four most important responsibilities. However, these functions were rated significantly lower by the CMRs ($p < 0.05$). The only function rated significantly higher by the CMRs was attending physician duty ($p < 0.05$). There was no significant difference between the two groups in the ratings for the other responsibilities. Some CMRs added the responsibilities of organizing social functions and dealing with pharmaceutical industry representatives but rated them of low or moderate importance.

The desirable CMR attributes of clinical judgement, clinician model, medical knowledge and demonstrated research interests were rated significantly higher by the PCs than by the CMRs ($p < 0.03$) (Table III); the last attribute, however, was ranked 12th by both groups. The attributes ranked highest by both groups were clinical judgement, leadership abilities, and being independent, per-

sonable and supportive. The PCs rated clinical judgement and leadership abilities as the two most important attributes, whereas the CMRs rated being personable and being supportive as the two most important.

There were no significant differences between the two groups in their opinions on whether the duties or roles of the CMR in their hospital should be changed (PCs: no change 83%, change 17%; CMRs: no change 66%, change 34%) or on how necessary the CMR was in their hospital (PCs: very 83%, somewhat 17%; CMRs: very 69%, somewhat 28%, not 3%). Both groups felt that the CMR played a vital role in faculty-house staff liaison and arbitration and in maintaining educational opportunities for house staff.

Twenty-two of the CMRs (76%) would still have accepted the position if they had known what they knew at the time of the survey. This group rated the degree of importance of the position significantly higher than did those who would have refused it ($p < 0.02$) (Table IV). No significant differences between the two CMR groups were found when opinions on changes to the CMR position were similarly analysed. The changes most frequently suggested by the CMRs were decreased administrative duties and unnecessary hospital committee memberships, increased teaching responsibilities and, in some hospitals, a 6-month CMR term.

A total of 92% of the PCs felt that the CMR position was very or somewhat advantageous with respect to a future private practice, compared with 67% of the CMRs ($\chi^2 = 8.59$, 2 df, $p < 0.02$). Both groups felt that the position was only somewhat advantageous in terms of a future academic or administrative career. Some CMRs commented that although the position leads to increased exposure within the hospital and university communities, it did not guarantee future careers.

The PCs listed 362 previous CMRs, for 180 of

Table I — Estimates by physicians-in-chief (PCs) and chief medical residents (CMRs) at Canadian university-affiliated hospitals of the proportion of time spent by the CMR on required hospital duties

Group	% of time; no. of respondents		
	< 25	25-50	> 50
PCs (n = 34)	16	12	6
CMRs (n = 29)	6	11	12

$\chi^2 = 6.23$, 2 degrees of freedom (df), $p < 0.05$.

Table II — Mean ratings* by PCs and CMRs and overall rank of 10 CMR responsibilities

Responsibility	PCs (n = 36)		CMRs (n = 29)		p†
	Overall rank	Mean rating (and standard deviation [SD])	Overall rank	Mean rating (and SD)	
Faculty-house staff liaison	1	4.58 (0.66)	1	4.17 (0.97)	< 0.05
House staff leader	2	4.44 (0.78)	2	4.03 (0.97)	< 0.05
House staff role model	3	4.33 (0.66)	4	3.66 (1.18)	< 0.05
Teaching house staff	4	4.14 (0.78)	3	3.70 (1.13)	< 0.05
Confidante of PC	5	3.69 (2.76)	6	2.93 (1.67)	NS
Arranging department rounds/conferences	6	3.61 (1.38)	5	3.55 (1.45)	NS
Leading department rounds/conferences	7	2.94 (1.32)	8	2.66 (1.13)	NS
Medical consultant	8	2.86 (1.50)	9	2.24 (1.73)	NS
Department research	9	2.31 (1.44)	10	2.00 (1.62)	NS
Attending physician duty	10	1.75 (1.50)	7	2.72 (1.94)	< 0.05

*0 = not important; 5 = very important.

†NS = not significant.

whom eventual career placement was known: 102 were in subspecialty academic positions, 70 were in subspecialty private practice, 6 were in specialty training and 2 were in administrative careers.

Discussion

The response rate for the CMRs was lower than that for the PCs despite a repeat mailing to nonresponders. The results may therefore not be reflective of all CMRs. However, from the information available to us from our mailing list, the nonresponders did not differ from those who responded in number of house staff supervised, province of training or university program. We obtained a completed questionnaire from at least one CMR in each university program across the country. In addition, responses obtained after completion of the academic term may not have been the same as during the term, owing to factors not directly related to the CMR year (e.g., eventual career placement, Royal College examination results, and further recollections and reflections). For these reasons we believe that the slightly lower response rate among the CMRs does not invalidate the observed results.

The significant difference in desirable prior postgraduate medical training between the PCs and the CMRs is probably related to the notion among PCs that the CMR position is the traditional final year before Royal College certification in

internal medicine. It appears clear that in some universities the CMR does not require 3 years of postgraduate medical training to function adequately (30% of the CMRs had completed less than 3 years of training before starting the position). No CMR was certified in internal medicine, in contrast with some CMR positions in the United States, where the chief residency is treated as a medical fellowship (i.e., postcertification) year. This may also partly explain why US surveys have shown higher disapproval rates among CMRs who were eligible to practise internal medicine but were obligated to endure a stressful and difficult year.^{5,6}

The PCs and CMRs agreed on the four most important CMR functions, but the PCs rated them significantly higher than did the CMRs. PCs may realize the essential and vital nature of these roles and hence consider them more important than do CMRs. Interestingly, the only other significant

Table IV — Association between the perceived importance of the CMR position and the reacceptance response of the 29 CMRs

Level of importance of CMR position	Reacceptance response; no. of CMRs	
	Yes	No
Very	18	2
Somewhat	3	5
Not	1	0

$\chi^2 = 8.93, 2 \text{ df}, p < 0.02.$

Table III — Mean ratings and overall rank of 13 desirable CMR attributes

Attribute	PCs (n = 34)		CMRs		p
	Overall rank	Mean rating (and SD)	Overall rank	Mean rating (and SD)	
Clinical judgement	1	4.50 (0.52)	5	4.04 (0.66) (n = 26)	< 0.03
Leadership abilities	2	4.47 (0.64)	4	4.15 (0.87) (n = 26)	NS
Being independent	3	4.44 (0.64)	3	4.21 (0.90) (n = 28)	NS
Being personable	4	4.35 (0.70)	1	4.39 (0.79) (n = 28)	NS
Being supportive toward house staff	5	4.29 (0.70)	2	4.33 (0.85) (n = 28)	NS
Clinician model	6	4.26 (0.64)	7	3.58 (0.92) (n = 26)	< 0.03
Medical knowledge	7	4.09 (0.70)	8	3.54 (0.76) (n = 26)	< 0.03
Academic career potential	8	3.59 (0.99)	9	3.30 (1.40) (n = 27)	NS
Faculty potential	9	3.18 (1.28)	10	2.92 (1.48) (n = 26)	NS
Familiarity with staff	10	3.12 (1.63)	6	3.81 (1.25) (n = 27)	NS
Administrative interest	11	2.85 (1.11)	11	2.70 (1.45) (n = 27)	NS
Demonstrated research interests	12	2.82 (1.11)	12	2.25 (1.75) (n = 28)	< 0.03
Community practice potential	13	2.50 (1.40)	13	2.07 (1.45) (n = 27)	NS

difference in the perception of CMR responsibilities was in the attending physician duty, which was ranked last by the PCs and seventh of 10 by the CMRs. This probably reflects some CMRs' experiences of this role or perhaps their own desire to increase direct patient contact.

The importance of maintaining and encouraging stable house staff relationships is reflected in the ratings for desirable CMR attributes in both groups. The top five attributes, although ranked differently, were the same in the two groups. An independent resident with proven clinical judgement and leadership skills would be ideally suited as a CMR for most PCs throughout the country. By being perceived as personable and supportive to house staff, the CMR helps maintain house staff solidarity and support. These perceptions may explain in part the higher ranks given these two attributes by the CMRs. Although the rating for familiarity with staff was not significantly different between the two groups, it was ranked higher by the CMRs. The ability to identify knowledgeable or helpful physicians for the numerous hospital, administrative and house staff problems is probably more pertinent to CMRs and also helps in maintaining faculty-house staff relations.

Administrative interest was ranked 11th by both groups. Therefore, it is not surprising that changes in time-consuming administrative duties was the most common suggestion to improve the CMR position in most hospitals. Some CMRs suggested that most of these duties could be handled equally well by nonmedical personnel, thus liberating more time for the CMR's clinical or teaching interests. However, because they significantly underestimate the time requirements of the CMR, PCs are unlikely to be receptive to shifting these duties to others.

Most of the PCs and CMRs felt that the CMR position is necessary and that no changes are required, and 76% of the CMRs would still have accepted the position if they had known what they knew at the time of the survey. Those who would not have accepted the position cited the need to have a member of the senior house staff act as an intermediary or arbitrator as the major justification for the position. Otherwise, excessive administrative turmoils, endless house staff scheduling and frustrating committee memberships consumed valuable time and made the position less than desirable.

The CMR position was perceived by both groups to be, at best, only moderately advantageous with respect to future academic, administrative and private practice careers. Unfortunately, the eventual career placement of previous CMRs was unknown in too many cases to statistically determine whether the position actually enhanced any career opportunities.

The chief medical residency in Canada has slowly changed from a principal physician-teacher role to a more distant administrator-bureaucrat role, with diminishing direct patient care responsi-

bilities. Our findings suggest that this changed role is unwanted by both PCs and CMRs and that the changes are therefore potentially reversible. The level of satisfaction among CMRs in Canada is higher than that reported from US studies.^{5,6} The duties of PC-house staff liaison and teaching were identified as the most enjoyable for most CMRs; administrative functions were the least enjoyable. These opinions mirror the US experience.²⁻⁵ Although no study has critically compared the position in the two countries, major differences in CMR duties, functions or postgraduate medical training do not appear in themselves to account for all the differences. In contrast to the US situation,⁵ the CMR position in Canada does not appear to be perceived as anachronistic, obsolete or outdated. Our results strongly suggest that the position continues to be viewed as necessary, useful and wanted in most university hospitals in Canada. These findings suggest that realigning some CMR responsibilities and functions to match the clinical and teaching objectives of the hospital would improve most CMR positions.

The perceived necessity of the CMR position and the desirable attributes and responsibilities showed remarkable consistency among PCs and CMRs across the country and among different programs. This nationwide uniformity is probably the most forceful argument for restoring the original and prominent but slowly vanishing physician-teacher role of the CMR. Simple administrative duties could easily be dealt with by an administrative assistant. There should be little ideologic resistance to transferring administrative duties to nonmedical personnel, since both groups rated this function of low importance. Undoubtedly the major obstacle to this transfer would be financial.

Restricting membership in hospital committees to those that directly involve house staff and medical students would liberate more time and allow the CMR to engage in more important or interesting functions. A 6-month CMR term may be an attractive alternative in some hospitals. This would distribute the CMR's duties and functions to two qualified people every year, and their experiences would give them a different perspective of hospital and university priorities, staff and organization. These particular insights were identified as very educational by some CMRs.

Our findings suggest that the ideal CMR should have sound clinical judgement but not be a walking internal medicine encyclopedia, should be an independent teacher but also supportive, personable and sympathetic. Administrative or research interests offer no advantage in obtaining the position and most likely would not help significantly in daily CMR duties. Most CMRs do not perceive career advancement as a major advantage.

The CMR duties, functions and objectives should be clearly outlined when the position is first offered. Prospective CMRs would then be aware of the broad and specific goals that the PC

envisions for the position. It may also help prepare the candidate for the transition from house staff to junior-level faculty. CMRs should also identify their primary objectives for the academic year. Regular evaluation of the duties and objectives by the PC and CMR within each hospital might identify potential problems early and should lead to enhancement of the position for the CMRs, their hospitals and future CMRs.

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Meetings

continued from page 200

Oct. 5-7, 1988: Conference on Mental Illness and Violence: Myths and Realities

Four Seasons Hotel, Edmonton

Mr. J. de Cangas, vice-chairman, Conference Committee, Alberta Hospital Edmonton, Box 307, Edmonton, Alta. T5J 2J7; (403) 973-2237 or 973-2205

Oct. 13-15, 1988: 9th Annual Conference of the Canadian Group Psychotherapy Association
King Edward Hotel, Toronto

Dr. Kent Mahoney, Holy Cross Hospital, 2210-2nd St. W, Calgary, Alta. T2S 1S6

Oct. 15, 1988: Homecoming Medical Conference
Rm. M147, Faculty of Medicine, University of Western Ontario, London

Dianne McCormack, program coordinator, Continuing Medical Education, University of Western Ontario, London, Ont. N6A 5C1; (519) 661-2074

Oct. 15-17, 1988: 15th Annual Meeting of the Canadian Sex Research Forum

Glenerin Inn, Mississauga, Ont.

Dr. R.W.D. Stevenson, executive director, Canadian Sex Research Forum, Sexual Medicine Unit, Shaughnessy Hospital, 4500 Oak St., Vancouver, BC V6H 3N1; (604) 875-2027

Oct. 15-19, 1988: 7th International Congress on Care of the Terminally Ill

Queen Elizabeth Hotel, Montreal

Susan Garin, program director, Congress Secretariat, 7th International Congress on Care of the Terminally Ill, c/o GEMS Conference & Consulting Services, 100-4260 Girouard Ave., Montreal, PQ H4A 3C9

Oct. 17-19, 1988: 64th Annual Convention of the Ontario Hospital Association

Metropolitan Toronto Convention Centre

Peter Wood, general manager, Communications Services, Ontario Hospital Association, 150 Ferrand Dr., Don Mills, Ont. M3C 1H6; (416) 429-2661

Oct. 21-22, 1988: 2nd Annual Pacific Coast Brain Injury Conference — Symposium for Professionals, Survivors and Families

Richmond Inn, Vancouver

Pacific Coast Brain Injury Conference, 201-1120 Austin Ave., Coquitlam, BC V3K 3P5; (604) 936-6886

Oct. 26-29, 1988: Annual Conference of the American Medical Writers Association

Hershey Hotel, Philadelphia

American Medical Writers Association National Office, 9650 Rockville Pike, Bethesda, MD 20814, USA; (301) 571-1891

Oct. 26-30, 1988: Joint Meeting of the American Academy of Child and Adolescent Psychiatry and the Canadian Academy of Child Psychiatry

Westin Hotel, Seattle

Dr. J.H. Beitchman, Clarke Institute of Psychiatry, 250 College St., Toronto, Ont. M5T 1R8; (416) 979-6813

Oct. 27-28, 1988: Symposium on the Dimensions of Sickle Cell Anemia in Canada

Montreal Children's Hospital

Sickle Cell Secretariat, Rm. 20, 3450 University St., Montreal, PQ H3A 2A7; (514) 398-3770, FAX (514) 398-3594

Oct. 28-29, 1988: Alcohol and Child/Family Health: a Conference with Particular Reference to Alcohol-Related Birth Defects

Sheraton Plaza 500, Vancouver

Conference secretary, Alcohol-Drug Education Service, 302-96 E Broadway, Vancouver, BC V5T 1V6; (604) 874-3466

Oct. 28-30, 1988: National Phlebology Conference
Banff Springs Hotel, Banff, Alta.

Mrs. S. Morrow, conference coordinator, Trade Show Managers Inc., 3640-26 St. NE, Calgary, Alta. T2E 6Z4; (403) 250-3526, FAX (403) 291-0456

Nov. 3-5, 1988: 1st National Conference on the Late Effects of Polio

L'Hôtel, Toronto

Ontario March of Dimes, 60 Overlea Blvd., Toronto, Ont. M4H 1B6; (416) 425-0501

continued on page 232