0008-3194/99/249–257/$2.00/©JCCA 1999

# Standards of care: what do they mean to chiropractors, and which organizations should develop them

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*This article is a follow-up on our previous work examining Canadian chiropractors' attitudes towards chiropractic philosophy and scope of practice and their implications for the implementation of clinical practice guidelines. In this current study, we examined Canadian chiropractors' attitudes toward standards of care, the organizations developing them and their relationship to the philosophy index. The findings indicated that there was no agreement about the definition of standards of care among chiropractors, although there was strong support for the concept. Most chiropractors preferred that chiropractic organizations set standards of care – the strongest support was for the Canadian Chiropractic Association. Finally, we found differences among chiropractors' attitudes toward standards of care and the organizations developing them with respect to philosophy. Empirically oriented chiropractors supported only a narrow definition of standards of care limited to issues surrounding safety and diagnosis. In addition, empirically oriented chiropractors would only support the development of standards of care by an expert panel of chiropractors. Rationalist and moderates supported the development of standards of care by a broader range of chiropractic organizations. We concluded that successful implementation of standards of care could occur if the CCA, in consultation with other chiropractic organizations, was actively committed to this initiative.*

*Le présent article poursuit l'examen de l'attitude des chiropraticiens canadiens vis-à-vis de la philosophie de la chiropratique, de la portée de l'exercice de leur profession et des conséquences pour la mise en oeuvre de directives pour la pratique clinique de la chiropratique. Dans l'étude présentée ici, nous avons étudié l'attitude des chiropraticiens canadiens vis-à-vis des normes de soins, des organisations qui les élaborent et de leur rapport avec la philosophie de la discipline. Les résultats indiquent qu'il n'y a pas de consensus pour ce qui est de la définition des normes de soins parmi les chiropraticiens, quoiqu'ils soient nombreux à appuyer le concept. La majorité des chiropraticiens préféreraient que les organisations chiropratiques établissent les normes de soins – le soutien le plus fort allant à l'Association de chiropratique canadienne (ACC). Finalement, il y a divergence d'attitude entre les chiropraticiens envers les normes de soins et les organisations qui les élaborent concernant la philosophie en question. Les chiropraticiens plutôt intuitifs ne soutiennent qu'une définition étroite des normes de soins, limitée aux questions de diagnostic et d'innocuité. De plus, ces mêmes chiropraticiens reconnaissent que seul un comité d'experts en chiropratique a la compétence pour élaborer des normes de soins. Les rationalistes et les modérés soutiennent l'élaboration de normes de soins par un ensemble d'organisations chiropratiques. Nous sommes arrivés à*

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(JCCA 1999; 43(4):249–257)

KEY WORDS: chiropractic, standards, practice guidelines.

*la conclusion que la mise en place de normes de soins pourrait réussir si l'ACC, en consultation avec d'autres organisations chiropratiques, s'engageait activement dans cette entreprise.*
(JACC 1999; 43(4):249–257)

MOTS CLÉS : chiropratique, normes, directives.

## Introduction

Over the past ten years, the idea of clinical practice guidelines (CPGs) and standards of care has caught the imagination of governments, health care practitioners, insurance companies, and peer review committees. Interest in CPGs and standards of care has resulted in much activity by many health care disciplines, including chiropractic, in developing, disseminating, and implementing these guidelines and standards.

The focus on CPGs and standards of care has been driven by a number of factors including the escalating costs of health care, improving patient outcome, the information explosion resulting in a discrepancy between scientific research and clinical practice, and evidence of unnecessary procedures. In short, governments and third-party payers are demanding greater provider accountability and fiscal responsiblity. The fear among health care practitioners is that if they do not develop the guidelines voluntarily, they will be imposed upon them.

Chiropractors, of course, were not immune to these concerns. In 1990 the Canadian Chiropractic Association (CCA), following the lead of American chiropractic organizations, established a consensus process to develop CPGs.[1] The guidelines were later presented at the Glenerin Consensus Conference where they were debated and given final approval. The guidelines were subsequently published by the CCA and distributed to every member in 1994. Although the consensus process both in the United States and Canada generated agreement among the chiropractors who participated in the process, the unanswered question was whether or not rank and file chiropractors would comply with the guidelines.

## Background

In an earlier paper, we presented our findings on Canadian chiropractors attitudes towards CPGs.[2] We found that Canadian chiropractors were divided over chiropractic philosophy and scope of practice. At one end of the continuum, about one-third of chiropractors believe that chiropractic is an alternate form of care, are more likely to subscribe to the traditional chiropractic philosophies of D.D. and B.J. Palmer, and support a liberal or broad scope of practice. In our original paper, we labelled this group as "liberal" chiropractors but in subsequent discussion and feedback on the paper, we have renamed this group as empiricists (i.e. the epistemological assumptions are derived primarily from clinical practice). At the other end of the continuum, roughly one-fifth of chiropractors did not believe that chiropractic represented an alternate form of care, were less likely to subscribe to traditional chiropractic philosophies and were more likely to support a conservative scope of practice (i.e. limited to neuromusculoskeletal disorders). In the original paper, we labelled this group of chiropractors as "conservatives" but have renamed them as rationalists (i.e. the epistemological assumptions are drawn from an experimental science model). The majority of chiropractors fell somewhere between these extreme positions. We concluded that it would be difficult to implement national CPGs given the competing views of chiropractic philosophy and scope of practice.

Although the differences among chiropractors may mitigate against the successful implementation of CPGs and standards of care, a number of other variables have been shown to influence the incorporation of CPGs into clinical practice. In Mittman and Siu's[3] review of the literature on changing physician behaviour, they identified three basic approaches to the implementation of CPGs. They found that the dissemination of written materials alone was not an effective strategy, but educating physicians in face-to-face encounters, group discussion and other forms of interaction produced positive results in changing physician behaviour. They argued that interac-

tive forms of communication led to "the transfer of new norms of practice" which are transmitted through medical school training and socialization, organizational culture, and interactions with peers. The second approach to changing physician behaviour identified by Mittman and Siu was feedback to physicians on their compliance to CPGs. Although this approach was effective in the short term while the feedback was being actively provided, when the monitoring process ended, physicians returned to the preinterventionist practice styles. Financial incentives for providers have also been used to change physicians' behaviour, but with mixed results.[4] Most of the literature has focussed on negative financial incentives (i.e. denial or restriction of payment for services provided outside of CPGs) which has reduced hospital and insurance costs, but the impact on the quality of care is less clear. Mittman and Siu conclude that a combination of strategies would probably be the most effective way of changing physician behaviour rather than relying on one approach.

One unexamined aspect in the literature on CPGs is the role of the organizations in the dissemination and implementation of CPGs. Most of the studies tend to focus on individual characteristics and attitudes of the targetted group, but as Grol points out the work setting, and most significantly, the network of general practitioners, plays a crucial role in the receipt and adoption of CPGs[5] (see also Kanouse and Jacoby).[6] There is some evidence to suggest that physicians' acceptance of CPGs is, in part, based on their knowledge of who has been involved in their development. Jonathan Lomas, in his study of changes in obstetricians' behaviour after becoming familiarized with CPGs, found that after 24 months, there was a significant increase in the number of vaginal births and a decline in the length of hospital stay for obstetricians who were educated by an opinion leader. There were no differences between those in the audit and feedback group and the control group.[7,8] Similarly, Hayward (cited in Lewis) also found that "physicians clearly rank CPGs on the basis of who has been involved in the process even when the guidelines are identical and funded by the same source".[9] Other studies have noted the importance of local organizations in implementation of CPGs. For example, Durand-Zaleski et al. found improvements in the management of hypovolaemia when guidelines were disseminated at local meetings and implemented through monthly feedback meetings.[10] Finally, if organizations do play a critical role in influencing physicians' acceptance of CPGs, then the evidence suggests most physician organizations have not been active in promoting CPGs, thereby undermining the stated goal of changing physician behaviour. Carter et al., in their study of Canadian organizations active in CPGs, found that only 38% of the respondent organizations actively promoted CPGs through a variety of measures including training, use of local opinion leaders, information technology, local consensus processes and counter detailing.[11]

Despite the differences in philosopy and scope of practice among chiropractors, it still may be possible to implement a national strategy for CPGs and standards of care if there is some degree of consensus among chiropractors about which organization(s) should take a leadership role. In essence, successful implementation may depend upon the degree to which Canadian chiropractors **trust** the organization responsible for their implementation. In this paper, we examine Canadian chiropractors' attitudes towards a variety of chiropractic organizations involved in the development of ***standards of care***, as opposed to CPGs. Although standards of care and CPGs are often used synonymously, the literature distinguishes between these levels of clinical practice "based on the weight of scientific evidence linking them to the desired clinical outcome".[12] According to Eddy, standards define appropriate care based on well-founded scientific evidence, and should be followed in all circumstances with no flexibility for the clinician. Guidelines, as the term denotes, provides a framework for clinical practice which should be followed in most circumstances, but gives the clinician some flexibility in the management of a patient's condition. Standards of care then represent the highest level of clinical scrutiny which, in essence, represents core elements of clinical knowledge. Thus, an examination of chiropractors' understanding of standards of care, their attitudes toward the organizations which may be potentially involved in developing and implementing standards of care, and the relationship of these two variables to chiropractic philosophy could provide insight into areas where agreement within the profession over key aspects of chiropractic knowledge could be forged and which organizations are best positioned to encourage and ensure best clinical practices.

## Methods

A more detailed discussion of the sample and methods is discussed elsewhere.[2,14] Briefly, this study was based on a

**Table 1**
**Cross-Tabulation of Attitude 29: "Chiropractic Colleges Should Set Standards" by Philosophy Index**

**Philosophy Index (*n*)%**

| Attitude 29 | Rationalist | Moderate | Empiricist | Total |
|---|---|---|---|---|
| **Disagree** | (23)<br>24.0 | (45)<br>22.7 | (36)<br>43.4 | (104)<br>27.6 |
| **Neutral** | (17)<br>17.7 | (27)<br>13.6 | (9)<br>10.8 | (53)<br>14.1 |
| **Agree** | (56)<br>58.3 | (126)<br>63.6 | (38)<br>45.8 | (220)<br>58.4 |
| **Total** | (96)<br>25.5 | (198)<br>52.5 | (83)<br>22.0 | (377)<br>100.0 |

**Table 2**
**Cross-Tabulation of Attitude 30: "Provincial Licensing Boards Should Set Standards" by Philosophy Index**

**Philosophy Index (*n*)%**

| Attitude 30 | Rationalist | Moderate | Empiricist | Total |
|---|---|---|---|---|
| **Disagree** | (21)<br>21.9 | (50)<br>25.4 | (34)<br>41.5 | (105)<br>28.0 |
| **Neutral** | (14)<br>14.6 | (31)<br>15.7 | 8<br>9.8 | (53)<br>14.1 |
| **Agree** | (61)<br>63.5 | (116)<br>58.9 | (40)<br>48.8 | (217)<br>57.9 |
| **Total** | (96)<br>25.6 | (197)<br>52.5 | (82)<br>21.9 | (375)<br>100 |

**Table 3**
**Cross-Tabulation of Attitude 31 "The Canadian Chiropractic Association Should Set Standards of Care" by Philosophy Index**

**Philosophy Index (*n*)%**

| Attitude 31 | Rationalist | Moderate | Empiricist | Total |
|---|---|---|---|---|
| **Disagree** | (14)<br>14.6 | (17)<br>8.6 | (16)<br>19.5 | (47)<br>12.5 |
| **Neutral** | (4)<br>4.2 | (20)<br>10.2 | (14)<br>17.1 | (38)<br>10.1 |
| **Agree** | (78)<br>81.3 | (160)<br>81.2 | (52)<br>63.4 | (290)<br>77.3 |
| **Total** | (96)<br>25.6 | (197)<br>52.5 | (82)<br>21.9 | (375)<br>100 |

**Table 4**
**Cross-Tabulation of Attitude 38: "An Expert Panel of Doctors Should Set Standards of Care" by Philosophy Index**

**Philosophy Index (*n*)%**

| Attitude 38 | Rationalist | Moderate | Empiricist | Total |
|---|---|---|---|---|
| **Disagree** | (43)<br>44.8 | (133)<br>68.2 | (71)<br>85.5 | 247<br>66.0 |
| **Neutral** | (22)<br>22.9 | (31)<br>15.9 | (7)<br>8.4 | (60)<br>16 |
| **Agree** | (31)<br>32.3 | (31)<br>15.9 | (5)<br>6.0 | (67)<br>17.9 |
| **Total** | (96)<br>25.7 | (195)<br>52.1 | (83)<br>22.2 | (374)<br>100.0 |

**Table 5**
**Cross-Tabulation of Attitude 42: "The Rand Corporation Should Set Standards of Care" by the Philosophy Index**

**Philosophy Index (*n*)%**

| Attitude 42 | Rationalist | Moderate | Empiricist | Total |
|---|---|---|---|---|
| **Disagree** | (22)<br>22.9 | (66)<br>33.8 | (23)<br>28 | (111)<br>29.8 |
| **Neutral** | (33)<br>34.4 | (78)<br>40.0 | (45)<br>54.9 | (156)<br>41.8 |
| **Agree** | (41)<br>42.7 | (51)<br>26.2 | (14)<br>17.1 | (106)<br>28.4 |
| **Total** | (96)<br>25.7 | (195)<br>52.3 | (82)<br>22.0 | (373)<br>100.0 |

stratified (by province and gender) random sample of 600 chiropractors drawn from the mailing list of the Canadian Federation of Licensing Boards. The final response rate was 68.3% ($n = 401$). For the current study, we adopted and modified a questionnaire by Hansen[15] on chiropractors attitudes toward standards of care, and respect for chiropractic leaders and organizations. In addition, we constructed a philosophy index based on twelve statements which examined chiropractors' attitudes towards philosophy and scope of practice. For this analysis, we did frequency analyses of chiropractors' definitions of standards of care and attitudes to various organizations which might potentially be involved in the development and implementation of standards of care. In turn, we correlated definitions of standards of care and who should set standards of care with the philosophy index. We further refined our analysis by dividing the philosophy index into three categories, empiricist (scores ranging from 49 to 65), rationalist (13 to 30) and moderate (31 to 48), and conducted a cross-tabular analysis with the various organizations potentially involved in the setting of the standards of care.

## Results

### *Definitions of standards of care*

Most chiropractors disagreed with the definitions of standards of care provided in the questionnaire. The majority of chiropractors (83.5%) disagreed with the statement that standards of care means the maximum number of treatments. Only 35% of chiropractors believe that standards of care mean the minimum care allowable; the remaining 65% rejected this view. The majority of chiropractors (78.8%) do not associate standards of care with diagnosis and 72.1% do not define standards of care primarily as a safety issue. The attempt to form an index for standards of care did not yield an internally consistent scale as indicated by the low alpha coefficient (alpha = .2583).

Athough Canadian chiropractors disagreed with these statements as definitions of standards of care, most chiropractors support the **concept** of standards of care. The majority of chiropractors (81%) do not believe that standards of care will decrease the quality of chiropractic care or that it will lead to the uniform treatment of patients (68.8%). They (70.3%) believe that standards of care should be mandatory and 83.8% agree that knowledge of standards of care should be required by licensing boards. Finally the majority of chiropractors (81.9%) would adopt standards of care if they could see that their patients would benefit.

### *Who should set standards of care?*

Most chiropractors preferred that chiropractic organizations set standards of care – although the level of support for chiropractic organizations varied. The majority of chiropractors (76.6%) indicated that the national body, the CCA, should set standards of care. This was followed by a consortium of chiropractic colleges (65.6%), a consensus of all practising chiropractors (65.6%), the provincial associations (63.7%), chiropractic colleges (59.1%), the provincial licensing boards (58%), an expert panel of chiropractors (52.9%) and the American chiropractic political organizations – the American Chiropractic Association (52.3%) and the International Chiropractic Association (48.0%). Of all of the chiropractic organizations, chiropractors were least favourably disposed to standards of care being developed by chiropractic research agencies; only 40% supported this option; 25.3% were opposed; the remaining 34.7% were neutral. Overall, chiropractors were neutral on whether the Rand Corporation should be involved.

Chiropractors were opposed to non-chiropractic organizations such as medical boards, insurance companies and provincial health plans becoming involved in setting standards of care. The overwhelming majority of chiropractors (94.5%) were against medical boards setting standards of care; this opposition was muted to some degree if the expert panel was composed of chiropractors and medical doctors but 66.5% of chiropractors still disagreed with this option. Similarly, a large majority of chiropractors (87.5%) objected to insurance companies setting standards of care. In addition, the majority of chiropractors (84.5%) were opposed to District Health Boards setting standards of care. Reliability for the scale including these statements was high (alpha = .7251).

### *Standards of care and the philosophy index*

Closer examination of attitudes toward standards of care reveals that some aspects of standards of care correlated with the philosophy index. Chiropractors who register high on the philosophy index; (i.e. those who espouse an empiricist philosophy and support a broad scope of practice) were more likely to agree with the statement that "standards of care refers only to safety ($r = .1472$, $p = .01$) and that "standards of care refers mostly to diagnosis" ($r = .1124$, $p = .05$). There were no significant correlations for the remaining two statements ("standards of care means minimum care allowable" and "standards of care means maximum number of treatments"). In addition, those chiropractors who hold an empiricist philosophy were also more likely to agree with the statements that "standards of care have nothing to do with the validation of chiropractic methods" ($r = .3372$, $p = .01$) and that "having standards of care will decrease the quality of chiropractic care" ($r = .2556$, $p = .01$). They disagreed with the view that "standards of care should be mandatory ($r = -.3529$, $p = .01$).

Similar trends can be found between chiropractors' attitudes toward who should set standards of care and the philosophy index. A statistically significant positive correlation was found between chiropractors who espouse an empiricist philosophy and the statement that "an expert panel composed of only chiropractors should set chiropractic standards of care" ($r = .1079$, $p = .05$). In contrast, statistically significant negative correlations were

found between an empiricist philosophy and support for a number of organizations potentially involved in setting standards of care including: chiropractic colleges ($r = -.1386$, $p = .01$); provincial licensing boards ($r = -.1458$, $p = .01$); the CCA ($r = -.1424$, $p = .01$); the provincial chiropractic associations ($r = -.1044$, $p = .05$); the American Chiropractic Association ($r = -.1236$, $p = .05$); medical boards ($r = -.1295$, $p = .05$); an expert panel composed of chiropractors and medical doctors ($r = -.3245$, $p = .01$); and the Rand Corporation ($r = -.2096$, $p = .01$). There were no significant correlations between the philosophy index and attitudes toward involvement of the International Chiropractic Association, insurance companies, a consortium of many chiropractic colleges, a consensus of all practising chiropractors, or District Health Boards.

Finally, in order to provide a more detailed picture of the relationship between the philosophy index and who should be involved in setting standards of care, we further refined our analysis by dividing the philosophy index into three categories, empiricist (scores ranging from 49 to 65), rationalist (13 to 30) and moderate (31 to 48), and conducted a cross-tabular analysis with the various organizations potentially involved in the setting of the standards of care cited above. Of these groups, only five organizations (chiropractic colleges ($v = .1381, p = .006$), provincial licensing boards ($v = .1171$, $p = .036$), the CCA ($v = .1451$, $p = .003$), an expert panel of doctors ($v = .2175. p = .000$) and the Rand Corporation ($v = .1571, p = .001$) had statistically significant correlations with the philosophy index. Table 1 indicates that only 45.8% of empiricist chiropractors agreed that chiropractic colleges should set standards compared to 58.3% of rationalist chiropractors and 63.6% of "moderate" chiropractors. Similarly Table 2 indicates that 48.8% of empiricist chiropractors agreed that provincial licensing boards should set standards compared to 63.5% of rationalist chiropractors and 58.9% of moderates. Table 3 finds that the vast majority of rationalists (81.3%) and moderates (81.2%), and a smaller, but still the majority of empiricists (63.4%) agree that the CCA should set standards of care. Table 4 illustrates that empiricist and moderate chiropractors were overwhelmingly opposed to an expert panel of doctors setting standards of care: only 6.0% and 15.9% respectively would support such an option compared to 32.3% of rationalists. Table 5 indicates a wide variation in support for the Rand corporation among chiropractors; 42.7% of rationalists agree that the Rand Corporation should set standards of care compared to 26.2% of moderates and 17.1% of empiricists.

## Discussion

The results of this survey suggest that chiropractors see the value of standards of care, but the definition of standards of care remains elusive. Even though these survey statements were based on Jansen's focus groups, **overall** none of these statements were able to elicit a positive response; rather standards of care were generally defined in terms of "what it is not". A clear and positive understanding of standards of practice would more likely facilitate the acceptance and implementation of standards of care. In this context, a positive understanding appears to be related to the benefits of standards of care for chiropractors' clinical practice. However, while the majority of chiropractors do not agree with the standards of care as defined in the survey, a small group of chiropractors do hold a vision of standards of care which are defined in narrow, technical terms. Chiropractors who espouse an empiricist chiropractic philosophy and support a broad scope of practice believe that standards of care should be defined only in terms of safety, and limited mostly to diagnosis. We can surmise that the majority of chiropractors have a broader view of standards of care but that it is yet to be defined.

Implicit in the responses to the survey is a fear that standards of care may represent a new form of policing of the chiropractic profession. This position is evident in chiropractors' opposition to organizations or groups outside of the chiropractic profession being involved in setting standards of care. This stance is understandable in light of the history of the chiropractic profession as it has sought various forms of legal, economic and social recognition over the past century. At the same time, studies of the medical profession's response to standards of care also show that their acceptance is more likely if they are developed within the medical community, which suggests that professions generally are opposed to outside regulation.

Careful examination of support for organizations within the chiropractic profession reveals some of the same divisions between rationalist and empiricist approaches to clinical practice discussed in our earlier article. These differences are evident in the level of support for various chiropractic organizations. Of all of the chiropractic organizations which could be potentially involved in setting

standards of care, the least level of support was for the chiropractic research organizations. Only 40% of chiropractors would entrust the setting of standards of care to chiropractic research funding agencies, which arguably represent the more scientific approach to chiropractic but do not represent the mainstream views within chiropractic. The majority of chiropractors (74.6%) place most of their faith in the CCA which is (presumably) seen as representing the interests of the entire profession. Thus, the CCA is best positioned to take a leadership role in the development and implementation of standards of care. At the same time, the educational institutions, the political associations (particularly the provincial groups) and the regulatory bodies, enjoy relatively high support within the profession, suggesting that wide consultation across Canadian chiropractic organizations may indeed facilitate the consensus necessary for the successful implementation of standards of care, and de facto, clinical practice guidelines. Moreover, because these organizations enjoy relatively high levels of support, they are well-positioned to present national standards to the local chiropractic community. But as Lomas' work[7] suggests acceptance of standards of care requires local opinion leaders to champion this cause.

The data does suggest that a consensus could be achieved for the majority of the chiropractic profession. In comparing the three philosophical positions within the chiropractic profession (empiricists, rationalists, and moderates), the differences between the rationalists and moderates were minimal or non-existent with respect to the involvement of chiropractic organizations (chiropractic colleges, provincial licensing boards and the CCA) in the development of standards of care. These findings suggest that a compromise could be reached between the rationalists and moderates if the development and implementation of standards of care were restricted to chiropractic organizations. But it is unlikely that an agreement over standards of care could be reached between empiricially oriented chiropractors, and rationalists and moderates even if the standards were developed by a chiropractic organization(s). The data in this article and our earlier study consistently indicates that empiricist chiropractors have a different vision of chiropractic than the rationalists and moderates. However, the differences among these three philosophical positions is greatly reduced if the development and implementation of standards of care were left to organizations outside of the chiropractic profession. The majority of the profession would be opposed to an expert panel of doctors and the Rand Corporation would unlikely be able to garner enough support to forge a consensus.

## Conclusion

The message here is unequivocal – chiropractors will resist new forms of regulation from outside of the profession. But there is ample opportunity to develop national standards of care if there is a commitment by the CCA, in collaboration with provincial organizations and the Canadian Memorial Chiropractic College, to not only develop standards of care but also to devise implementation strategies which will facilitate the transfer of new norms of practice and encourage chiropractors to incorporate them into their clinical practices.


## Acknowledgements

The authors gratefully acknowledge financial support from the Chiropractic Foundation for Spinal Research. They also thank Fern Hagin and Alma Robers who provided research assistance.


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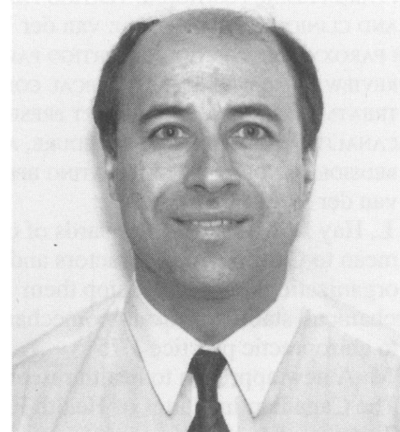

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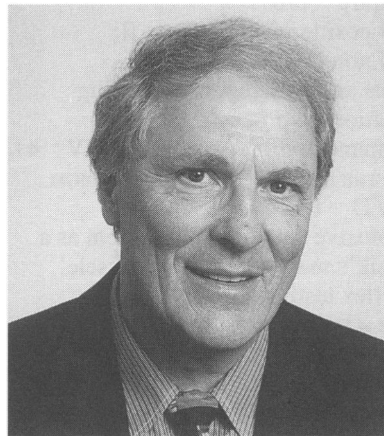

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